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ABSTRACT

This handbook describes the Assessment and Intervention Model for the Bilingual Exceptional Student (AIM for the BESt), an instructional/intervention approach to the education of language minority students. The model aims to improve academic performance through use of shared literature and Graves writing workshops, reduce inappropriate referrals to special education, and reduce bias in assessment, through use of effective instructional practices, school-based problem-solving teams, and informal assessment. The model was implemented in a southwestern United States school district. This handbook provides many details about effective strategies and required resources for replicating the model, and offers clear examples of the instructional strategies used on a day-to-day basis to make classroom teaching effective. Appendices list the steps of the model, shared literature purposes and procedures, typical book titles used in shared literature units in grades K-5, guidelines for implementing Graves writing workshops, and procedures for using student/teacher assistance teams for school-based problem solving. An instructional unit titled "On My Own," which involves reading "Julie of the Wolves" and "My Side of the Mountain," is presented with daily learning activities. (66 references) (JDD)

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AIM for the BESt

Assessment and Intervention Model for the Bilingual Exceptional Student

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A Handbook for Teachers and Planners from the Innovative Approaches Research Project

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from the Innovative Approaches Research Project

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Handbook for Teachers and Planners

AIM for the BESt: Assessment and Intervention Model for the Bilingual Exceptional Student

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PREFACE

This handbook describes an innovative instructional/intervention model that represents a promising approach to the education of language minority students. It is one of four handbooks produced to document and disseminate the findings of the Innovative Approaches Research Project (IARP).

The IARP evolved from concerns about the status of education for language minority students. By the middle of the 1980's, four critical areas were identified: literacy instruction, science/math instruction, dropout prevention, and the instruction of exceptional students. Improvements in those areas were needed to enhance the educational opportunities of language minority students. To gather more timely information and provide models which offered the promise of real solutions, the U.S. Department of Education, Office of Bilingual Education and Minority Language Affairs (OBEMLA), funded the Innovative Approaches Research Project in September 1987.

The structure of the IARP represents an innovation in the management of federally funded education research. OBEMLA chose Development Associates, Inc. of Arlington, Virginia, to manage and direct the overall IARP effort. Development Associates, in turn, issued a problem statement and solicited collaborators to conduct research and demonstration projects that addressed issues in the four critical areas. Numerous educational research organizations and investigators responded with their ideas and IARP staff convened peer-review panels to select the most appropriate responses. The projects selected by the peer-review panels were funded by Development Associates and implemented in local schools from 1988 to 1990.

The research collaborators selected to conduct the IARP research and demonstration projects were first asked to identify promising approaches to the education of language minority students in the specific topic areas. Second, they were asked to test the effectiveness of those approaches in actual school settings. Third, they were asked to document the implementation procedures and the outcomes of the approach. Finally, they were asked to collaborate with IARP staff in preparing handbooks and technical materials. The IARP staff is presently disseminating the results of the project and beginning a process of replicating the models.

This handbook, *AIM for the BESt: Assessment & Intervention Model for the Bilingual Exceptional Student*, provides information about the IARP comprehensive service-delivery program for exceptional language minority children, implemented in a school district in the southwestern part of the United States. School personnel, parents and educational planners may use this handbook to assess the appropriateness of the intervention for their schools. Also, teachers may look to the handbook for explicit advice on implementing the model. Therefore, the handbook provides many details about effective strategies and required resources for replicating the model. It also gives clear examples of the instructional strategies used on a day-to-day basis to make classroom teaching effective.

We have also sought ways to make this handbook easy to use. The main text was prepared by the research collaborators and represents their findings. The document is structured so that an interested reader may grasp the essential aspects of the model by reading the overview and major features section. Practitioners might wish to pay special attention to the "What Do I Do?" section. In the concluding sections, the research collaborators note the results that schools might expect if the project were replicated and they also provide the names of resource people. In addition,

the researchers have provided detailed bibliographical citations within the text and in a supplementary bibliography at the end of the volume.

Complementing the collaborators' text, the IARP Development Associates researchers have written margin notes to help guide readers to the concepts discussed in the material. These margin notes are designed to orient readers throughout the text and provide a narrative thread for readers who are perusing this material for the first time.

Several groups of people are responsible for the accomplishments of the IARP. First, I would like to thank the OBEMLA staff for their vision in designing the IARP and for the opportunity to implement the project. Without the technical expertise and support of OBEMLA staff including the Director of OBEMLA, Rita Esquivel; the Director of Research for OBEMLA, Carmen Simich-Dudgeon; the IARP Project Officer, Alex Stein; as well as the Grants and Contracts Officers, Jean Milazzo and Alice Williams, the project would never have fully enjoyed the success it does today. Credit must also be given to Warren Simmons, the first IARP project officer, who conceived this highly innovative project.

Next, I would like to extend appreciation to the IARP Development Associates staff and project associates—Peter Davis, President; Malcolm Young, Corporate Officer-In-Charge; and Paul Hopstock and Annette Zehler, Associate Project Directors. Bonnie Bucaro, Research Assistant to the IARP, has provided critical assistance and support. Richard Ottman, Teresa Crumpler, Loretta Johnston, Allan Kellum, Howard Fleischman, and Mark Morgan supplied expertise at critical times during the project. A special thanks to Richard Duran, Professor at the University of California, Santa Barbara; Walter Secada, Director of the MRC at the University of Wisconsin, Madison; and Joel Gomez, Director of the National Clearinghouse for Bilingual Education, who provided sharp insights, expert advice, and guidance. I would also like to acknowledge Philip Chinn, Professor of Special Education at California State University, Los Angeles, who served as continuing reviewer for the project. He added thoughtful insights and useful suggestions during the course of implementing the project. Richard Moss and Sonia Kundert provided valuable editorial assistance and graphic design ideas for the IARP products.

I would like to thank the AIM for the BESt project staff who successfully implemented a complex and effective comprehensive model. Co-principal investigators Alba Ortiz and Cheryl Yelich Wilkinson and research collaborator Phyllis Robertson-Courtney, working together on this project with the teachers, administrators and school support staff, initiated many changes in the school and classroom that resulted in improved literacy for many young children. The school administrators, teachers, and support personnel are to be congratulated. Also, a special thanks to Marsha Tapley and Denise Towns for their administrative support. Finally, a warm thank you to the students who gave so much time and effort to ensure the success of this project.

Charlene Rivera
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September 1991

INTRODUCTION

The Need for Innovative Approaches

The proportion of school-age children in the United States who come from non-English language backgrounds has increased substantially over the past several years. As a result, a large number of students enter our nation's schools each year with limited oral and written communication skills in English. The provision of effective instruction to these language minority students is one of the most critical challenges confronting today's schools (Lara and Hoffman, 1990).

This challenge comes at a time when schools are in the midst of instructional reform aimed at meeting educational demands imposed by the social, economic, and technological changes that have occurred in the decade of the eighties. Competition from abroad and the occupations created by new advanced technologies have created demands for higher achievement in science and math. Structural shifts in the economy, along with technological advances in computer and electronic automation, have altered the nature of the job market and increased the importance of literacy in the workplace. The implications of these changes are that many of those without adequate skills will have difficulty obtaining and keeping jobs in the years ahead (U.S. Equal Employment Opportunity Commission, 1986).

Schools today thus face enormous pressures to raise standards and to change the objectives of schooling in ways which incorporate activities and content designed to develop oral and written communication skills and critical thinking skills. Evidence suggests that reforms introduced in the 1980's to meet these ends are beginning to have an impact. However, there is rising concern that the school reform movement may serve to widen the already substantial gap between the achievement of majority students and those from minority groups, unless special steps are taken (McPartland and Slavin, 1990). In response to this concern, a renewed emphasis is being placed on strengthening programs serving language minority students whose academic progress is jeopardized by their economic status and/or conflicts between the language and culture of the schools and the languages and cultures found in the students' homes and communities.

The Response: Innovative Approaches Research Project

In responding to the need to strengthen instructional programs for language minority students, the U.S. Department of Education identified four critical target areas: literacy instruction, science/mathematics instruction, dropout prevention, and the instruction of exceptional students. It contracted Development Associates, Inc. of Arlington, Virginia to direct a comprehensive project, known as the Innovative Approaches Research Project (IARP), which would address each one of the critical areas through four separate research and demonstration projects. The four projects were:

- Community Knowledge and Classroom Practice:
  Combining Resources for Literacy Instruction;
- Cheche Konnen:
  Collaborative Scientific Inquiry in Language Minority Classrooms;
- Partners for Valued Youth:
  Dropout Prevention Strategies for At-Risk Language Minority Students;
- AIM for the BESt:
  Assessment and Intervention Model for the Bilingual Exceptional Student.

Although each of these projects was implemented in a specific school setting and with a specific language minority population, it was expected that an individual model and/or its component parts would be generalizable to other settings and applicable to language minority and non-language minority students in other communities. In order to help ensure that the results of the IARP projects would be replicable, both the research and the demonstration aspects of each project were carefully documented, focusing on how the insights gained might be used to implement the innovative models in other settings and with different populations.

The IARP research and demonstration projects were significant in that not only was each project based on a firm theoretical framework, but the implementation of each project was a collaborative effort involving researchers, administrators, and teachers who worked together in the classrooms and schools and who jointly shaped the refinements in the processes and procedures of the individual models. For this reason, the research and demonstration phase of the projects was particularly informative and led to important insights about effective instructional approaches for language minority students.

Interestingly, in reviewing the findings of all four IARP models, it became clear that despite the diversity of approaches and differences in focal areas, there was considerable commonality among the models. The common themes that became evident concern the importance of the organization of schooling, the value of teaching and learning approaches that restructure the traditional teacher/student relationships, and the importance of presenting language minority students with challenging content that is relevant to their experience and needs. Each model, as a specific example of these common themes, presents challenging ideas about more effective ways to structure schooling and the teaching/learning process.

This handbook presents AIM for the BESt, the model focused on instruction for exceptional students. Below, as an introduction to the handbook, we provide a brief outline of the AIM for the BESt model, followed by an overview of the common themes and approaches in the IARP models. In the discussion, we refer to aspects of the AIM for the BESt model to exemplify some of the general themes and approaches being described.

The Aim for the BESt Approach to Meeting the Needs of Exceptional Children

The AIM for the BESt approach to meeting the special needs of exceptional language minority children was based on several different recommendations taken from the research literature. First, research suggests that improving academic achievement and decreasing the inappropriate referral of language minority students to special education programs requires coordination across programs within a school setting, not isolated program- or personnel-specific interventions. AIM for the BESt addressed this concern by establishing school-based problem-solving teams known as Student/Teacher Assistance Teams (STAT) to coordinate the process.

Second, it appears that the academic success of exceptional language minority students demands a supportive environment where school personnel work in partnership to provide instruction that is appropriate, challenging, and linguistically and culturally relevant. AIM for the BESt provided such instruction by using the Graves Writing Workshop and Shared Literature, both of which are process-oriented and collaborative approaches.

Third, AIM for the BESt stressed the importance of appropriate assessment as a method for improving instruction and evaluating the special needs of students. Formal assessment measures such as standardized tests were complemented by more informal measures, in particular, the use of Curriculum-Based Assessment, a process more closely linked to the instructional needs of students.

In the structuring of these three interrelated approaches, the overall intention was to ensure appropriate instruction for all students and to lower the numbers of language minority students who would be erroneously labeled as exceptional students.

Common Themes and Approaches in IARP Models

In reviewing the findings of all four IARP models, the common themes that were found reflected the importance of the organization of schooling, the value of instructional approaches and interventions that restructure the traditional teacher/student relationships, and the need to present challenging and meaningful instructional content to language minority students. The common themes identified in the four models involve emphases on:

- the need for restructuring schooling to open up communication within the school community;
- the value of using participatory and cooperative teaching and learning approaches; and,
- the importance of providing instructional content that is challenging and that is culturally and personally relevant to students.

To persons familiar with the educational literature, these kinds of emphases are not all new; they reflect several issues and approaches that have received much discussion. However, the importance of the IARP models lies in the fact that program elements representing a specific and unique integration of these emphases were found within each of the models. Each model, as a specific example of these common themes, presents challenging ideas about more effective ways to structure schooling and the teaching/learning process. It is in these aspects that the IARP has fulfilled its goal of identifying innovations that can be used to successfully address the needs of language minority students. Thus, the common themes outlined below offer an important introduction and context to the handbook description of the AIM for the BESt model.

Restructuring Schooling

Throughout the implementation of the IARP research and demonstration projects, typical boundaries that existed within schools were crossed or broken down. The resulting increase in communication and collaboration among all school staff and in particular among those staff serving language minority students was an important factor in the success of the models. These innovations involved the restructuring of the schooling process. With regard to classroom practices in particular, the restructuring of schooling relates to:

- the relationship between the process of collaboration and innovative practices; and,
- the relationship between innovative practices in the classroom and traditional instructional policies.

And, with regard to school organization, the restructuring of the schooling process involved changes in:

- the relationship among schools and among classrooms within a school; and,
- the relationship between schools and communities.

The restructuring of these relationships carried out within the models led to significant changes in classrooms and ultimately to the changes observed in students' attitudes and performance.

Relationship Between the Process of Collaboration and Innovative Practices

All four of the IARP models included a new, expanded role for teachers in which teachers worked together to develop and to in fact define the specific application of the innovative model in their classrooms. That is, while typically teachers have been trained to function very independently, in the IARP models teachers collaborated with each other and with the researchers to work through and test ideas for working with their students.

The process of collaboration was actually an integral part of the innovative practices demonstrated by the models and played a significant part in their success. Collaboration gave teachers a forum in which they could voice their ideas for innovation and find mutual support and assistance in working out these ideas; the approach both made teachers themselves more receptive to change and created a strong base for change within the school.

In the AIM for the BESt model the use of Student/Teacher Assistance Teams, comprised of teachers and other school staff, provided a resource to all teachers for discussing and addressing problems that developed with individual students in their classes.The school staff began to see that the increased communication among them created new alternatives for handling problems, brought about through the pooling of their individual perspectives and resources.

Relationship Between Innovation and Traditional Instructional Policies

The IARP models also broke down walls constructed around teachers by school policies or common practices and by traditional training. Educators working on the IARP models were challenged to rethink what teaching is about, how they approach students, what role the established curriculum should have, and how school policies affect the teaching/learning process.

For each IARP model there was initially some resistance to the changes in common practices that were required in implementing the new model. However, in each case, the results and student outcomes of the innovative practices justified the changes and convinced others of the value of the new instructional approaches or interventions.

For example, in the AIM for the BESt model, the researchers noted how state mandates affected the willingness of the teachers to use new approaches:

> Not only are goals and objectives specified, but the amount of time which must be devoted to each content area is specified. Mastery of the "essential elements" of the curriculum are then measured by a state-wide student competency examination. While teachers seem to see the value of...[the new] approach .... achievement tests seem to be more consistent with transmission-oriented, skill-specific teaching ... [Teachers are reluctant]...even though the project has the full support of the superintendent, the bilingual education and special education director, and the school principals (Ortiz, Wilkinson, & Bergman, 1990 p. 32).

However, as the staff members involved in implementing AIM for the BESt became more confident of the effectiveness of the model components, and began to see the results of the instructional innovations in the classroom, their resistance to the changes lessened and they increasingly became advocates of the new approaches. Other staff members, too, who were not involved in the innovation, became interested in the model and requested training in the instructional approaches. In addition, the collaboration among the teachers and of the teachers with the researchers initiated support for innovation and provided a basis for change within the school that went beyond individual classrooms.

Relationship Among Schools and Classrooms

The IARP models defied traditional ways of thinking about schools and classrooms. Teachers from different schools seldom interact with one another, and within schools it is generally the case that teachers work in isolation. Within the IARP models, these traditional structures were changed.

In AIM for the BESt, the Student/Teacher Assistance Teams (STAT) helped to break down walls not only between classrooms but between special education and regular teachers. The STAT teams consisted of teachers and other staff and were charged with reviewing cases of students with academic or behavioral problems in order to come up with possible solutions for the classroom teacher to implement. Not only was this process in itself an innovation for the school, but the fact that staff members from different program categories were working together was also a major change in the regular practice of the school. Reaching across these boundaries between categories was an important factor in the success of the STAT teams and of the AIM for the BESt model.

Relationship Between Schools and Communities

In general, few genuine attempts have been made to build a bridge between the culture of schools and the culture of the communities from which students come (Heath, 1983; MIT, 1990). IARP instructional models recognize that schools must have a link to the real world in order to be meaningful to students.

In AIM for the BESt, the STAT process enabled teachers and staff to understand more fully the special needs of language minority students. In particular, the STAT, which included at least one team member who was bilingual and had an understanding of the children's home community, helped teachers become aware of the need to take language and home background into consideration when selecting and administering tests, interpreting test results, and planning instruction.

Teaching and Learning Approaches in the IARP

The IARP interventions also shared similar approaches to teaching and learning. While the exact mix of approaches and the specific forms they took in implementation were different for each model, all four of the IARP models made use of a combination of participatory teaching and cooperative learning approaches. That is, in each case the research collaborators arrived at the same conclusions: First, effective teaching involves teachers and students in meaningful learning tasks that are relevant to the individual student's experience. Second, effective learning activities involve students in cooperative work where they assume responsibility for their own learning.

Participatory Teaching/Learning

A key feature of instruction found in each of the four IARP research and demonstration projects was an approach to teaching that encourages students to actively participate in learning activities. For the language minority student, participatory learning is important because it (1) acknowledges that individuals learn in many different ways; (2) allows students to frequently practice and use their developing English and other language skills; (3) provides teachers with important feedback on student problems and achievement; (4) allows students to integrate their unique cultural and personal perspectives; and (5) generally improves student motivation and attention.

The teachers in the AIM for the BESt model used two complementary approaches to teaching literacy, Shared Literature and the Graves Writing Workshop, both of which focus on actively involving students in reading literature and in doing creative writing. Through Shared Literature students learn to understand story structure and become more familiar with authors and illustrators; the approach incorporates the use of language charts and/or journal writings which are used to record children's responses to books and to give a basis for teacher-student or student-student interaction. The Graves Writing Workshop involves children in writing and editing their own stories; both teachers and peers collaborate in the process of creating and editing the childrens' writing. The two approaches are examples of reciprocal-interactive teaching strategies (Cummins, 1984) that engage both teachers and students in activities that increase the meaningfulness and relevancy of the curriculum.

Cooperative Learning

Cooperative learning is a method of instruction that is student-centered and that creates interdependence among students, involving them in face-to-face interaction, while maintaining individual accountability. In classrooms where cooperative learning is utilized, students work jointly to accomplish an academic task, solve problems, or resolve issues. Cooperative learning can take a number of forms, such as peer tutoring, group projects, class presentations, etc. Within the IARP research and demonstration projects cooperative learning reflected the belief that teachers and students have considerable resources to offer each other and that those resources should be effectively used in the teaching/learning process.

Cooperative learning has been shown to be an effective pedagogical tool and is particularly appropriate for language minority students, many of whom come from cultural groups where cooperative approaches are highly valued (Cochran, 1989; Jacob & Mattson, 1987; Kagan, 1986; Solis, 1988). The advantages for language minority students are: (1) high levels of interaction and communication are required, stimulating students to productively use cognitive and oral English language skills; (2) students with heterogenous knowledge and skill levels help one another to meet lesson goals; (3) student self-confidence and self-esteem can be enhanced through individual contributions and through achievement of group goals; and (4) individual and group relations in the classroom may be improved.

In AIM for the BESt, cooperative learning was extensively employed in the Graves Writing Workshop activities in which students write, work together in critiquing, rewriting, and editing their products, and finally collaborate in publishing their work for the class and/or school/library.

The Content of Instruction for Language Minority Students

In the IARP models, the revisions in the instructional approaches used also incorporated important changes in the content of instruction. First, the implementation of the innovative approaches implied shifts in the curriculum toward more challenging levels of work. And second, the innovations also included a focus on making instructional content more relevant to the cultural background and personal experiences of students.

Challenging Level of Instructional Content

Frequently, the content of instruction provided to language minority students is reductionist and instructional activities are focused on lower order skills such as rote learning. However, lack of full proficiency in English does not and should not limit students to learning only content that requires lower order thinking skills. The example of the IARP models showed that when teachers have high expectations and present academic tasks that are complex and challenging, students become more engaged in and challenged by their learning, and instruction begins to tap their true potential for learning.

In the AIM for the BESt model, students were challenged by the work presented to them in the Shared Literature and the Graves Writing Workshop curricula. These interactive curricula gave students more opportunities to work with interesting and challenging literature, since they were reading award-winning and well-known children's literature. The students also were given more responsibility for their own learning through the opportunities for initiative and collaboration in reading and in producing written work. These new curricula began to excite students who had previously shown little interest in improving their literacy skills. For example, some students who had previously refused to do any writing became authors of their own books, and began to view themselves as authors. They showed pride in their accomplishments and interest in continuing their new-found writing skills.

Culturally Relevant Learning

A second common characteristic of instructional content within the IARP models was that instruction was consistently grounded in the personal and cultural experiences of students. Some of the benefits of such culturally relevant instruction are (Kagan, 1986; Tikunoff et al., 1981; Cazden & Legget, 1981):

- it works from the basis of existing knowledge, making the acquisition and retention of new knowledge and skills easier;
- it improves self-confidence and self-esteem of students by emphasizing existing knowledge and skills;
- it increases the likelihood of applying school-taught knowledge and skills at home and in the communities represented by the students; and,
- it exposes students to values, information, and experiences about other cultural and language groups.

While traditionally there have been obstacles to integrating personally and culturally relevant teaching styles and materials into the classroom (e.g., lack of materials, lack of information, impracticality when several cultural groups are present in a class, etc.), the IARP models provided strategies for overcoming some of these by emphasizing the important interrelationships among home, school, and community.

For example, the AIM for the BESt model, through the lines of communication opened up among the school staff, made teachers and counselors aware of linguistic and cultural differences. These individual and group distinctions became an important reference point when evaluating a student's need for special educational services. Then, through the use of the Student/Teacher Assistance Team (STAT), the AIM for the BESt IARP intervention provided a structure for communicating this awareness to other teachers, and in reference to specific students. This intervention lessened the possibility that limited proficiency in English would lead to inappropriate placement of a student in a special education program.

Equally important, the AIM for the BESt model provided teachers with training in the types of instructional approaches that open up opportunities for sharing information, personal experiences, and viewpoints. The reciprocal-interactive instructional approaches provided a pathway for mutual understanding among teachers and students, thus making instruction personally and culturally relevant and, as a result, more effective in working with language minority students.

Summary

The outcomes of the two years of research and demonstration of the IARP models are significant in two ways. First, each innovation was demonstrated to have a positive impact on students and, importantly, on the classrooms and schools involved as well. Thus, each of the IARP models provides a specific example of effective instruction/intervention for use in schools with language minority students.

Second, the findings of the IARP models taken together argue for important general changes in schools and classrooms in order to make schooling more effective. These are changes that involve the structure and organization of the school, the teacher/student relationship and instructional approaches used in the classroom, and the type of instructional content presented to students.

This handbook outlines the implementation of AIM for the BESt, the IARP model focused on exceptional students. The handbook offers guidance for those who are interested in implementing the model and outlines the types of outcomes that might be expected from the use of the model. In addition, the last section of the handbook provides a list of further sources of information on the model and its findings.

AIM for the BESt
A Handbook for Teachers and Planners

The Problem and the Challenge

Margin Notes

By the year 2000, the non-English language background population in the United States will be approximately 39.5 million, representing 10% of the total U.S. population (Orum, 1985). These changing demographics have major implications for public education. With projections indicating that the majority population in key areas of this nation will be Hispanic by the year 2000 (Yates, 1987), greater attention must be given to evaluating the appropriateness of educational opportunities provided to language minority students.

National statistics about the education of Hispanic students are rather bleak. For example, according to Brown, Rosen, Hill and Olivas (1980), the school dropout rate for Mexican American students may be as high as 66%. Hispanic students on average score 2 to 3 years below grade level in critical skills areas such as reading, math and science. Furthermore, Hispanic students are overrepresented in programs for students with learning disabilities (Ortiz & Yates, 1983).

Texas state data present troublesome findings *(Texas State Board of Education's Long-Range Plan for Public Education, 1990-94)*:

- In 1989, only 64% of Hispanic students passed the state-mandated exit level assessments of minimal competencies in mathematics, English language arts, and writing, as compared with 84% of white students.
- The dropout rate for Hispanic students was 45%.
- Thirty-nine percent (39%) of Hispanic children lived in poverty.

These statistics are alarming, especially since the state education agency's projections indicate that the Hispanic student population is growing at over twice the rate of the Anglo population and that Hispanics will account for nearly 50% of original school entries in Texas during the decade of the 90's.

The research collaborators note several distressing findings related to Hispanic students' difficulties in achieving success in school. These students are more likely to drop out and to perform below grade level. In addition, Hispanic students are often erroneously classified as learning disabled. Research evidence, though, suggests that placement in special education may not improve academic performance.

Lack of educational progress of Hispanic students has specific implications for special education, as these students are likely to be referred for special services because of academic difficulties. It is often difficult to distinguish between students with disabilities and those who are in the process of acquiring a second language since second language learners may exhibit behaviors similar to those of students with learning disabilities. Moreover, the lack of appropriate instruments and procedures for distinguishing linguistic and cultural differences from disabilities can result in disproportionate representation of minority students in special education. For example, Hispanics are under-enrolled in programs for the gifted and talented and over-enrolled in programs for students with mental retardation or learning disabilities (Dew, 1985).

Although the general expectation of educators seems to be just the opposite, placing language minority students in special education may not offer much hope for improving their educational status. Wilkinson and Ortiz (1986) conducted a study of reevaluation outcomes for a sample of Hispanic students with learning disabilities and found that (a) both Verbal and Full Scale WISC-R (Weschler, 1974) IQ scores decreased significantly between the time of the initial special education assessment and the mandated triannual evaluation; and (b) reading and written language achievement scores did not change with respect to the subjects' grade level peers. Despite this, placement committees which reviewed evaluation outcomes recommended that students spend significantly more time in special education.

Meeting the needs of language minority students requires that both regular and special educators be adequately trained to serve them. Regular classroom teachers must be able to provide instruction that is linguistically and culturally relevant so students can succeed academically. Only then can

retention and dropout rates be reduced and inappropriate referrals to special education be decreased. When students are referred for suspected disabilities, assessment procedures must be adapted to insure accurate diagnosis, a goal which cannot be met if assessment personnel use instruments and procedures which are not normed for a culturally and linguistically diverse population. Once students are placed, special education teachers and other service providers must possess the skills necessary to implement programs which simultaneously consider students' disabilities and other background characteristics, including level of proficiency in the native language and in English.

AIM FOR THE BESt MODEL

The Assessment and Intervention Model for the Bilingual Exceptional Student (AIM for the BESt) is a service delivery system designed to address issues associated with the education of language minority students. A multifaceted and campus-wide approach, rather than a single intervention, appears to be needed to assure a higher quality of education for these students. The AIM for the BESt model involves regular and special educators as well as other campus personnel. Implementation should help school districts in three ways. First, it can help to improve the academic performance of language minority students in regular and special education programs. Second, it should help to reduce inappropriate referrals of language minority students to special education. Finally, the model incorporates procedures that should reduce bias in the special education assessment process.

Rationale for the Approach

Improving Academic Performance

One of the main purposes of the AIM for the BESt model is to improve the academic performance of culturally and linguistically diverse students in both regular and special education. As indicated previously, the instructional strategies which seem to be most effective for these students emphasize reciprocal interaction rather than a transmission-oriented approach and direct instruction (Cummins, 1984). Transmission-oriented approaches are characterized by an emphasis on task analysis, by instruction that is sequenced from simpler to more complex activities and by a focus on direct instruction, using highly structured drills and practice. Transmission-oriented models present difficulties for language minority students because, as activities are simplified, they are frequently stripped of context and lose their meaning and purpose.

Interactionist approaches are characterized by genuine dialogue between students and teachers, in both oral and written communication, and by an emphasis on higher-order thinking skills. For example, initial reading instruction focuses on comprehension skills, not on word recognition, and writing instruction emphasizes communicative competence in the native and the second language, rather than the mechanics of written expression (e.g., punctuation or spelling). Moreover, teachers using an interactionist approach consciously integrate language use and development into all curricular content rather than teaching language as an isolated subject. Cummins argues that the way to simplify a task for a child is to add sufficient context to make the task comprehensible, rather than to segment the task into simpler, decontextualized units (Swedo, 1987). He supports holistic approaches as an alternative to direct instructional activities.

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In order to improve educational services to culturally and linguistically diverse students, including those with disabilities, a comprehensive approach is necessary. The AIM for the BESt model focuses on four complementary processes: first, improving instruction for all language minority students in regular education programs; second, using teams of classroom teachers to assist in finding solutions to students' academic or behavior problems; third, supplementing traditional assessment tools with informal assessment to give a more accurate indication of a student's performance and, finally, improving instruction provided to language minority students in special education.

The researchers distinguish between transmission-oriented approaches and reciprocal-interaction [also called interactionist] approaches. Transmission approaches emphasize drill and mastery of simple elements before more complex ones; typically, these approaches also de-emphasize context and stress accuracy of linguistic elements.

In contrast, interactionist approaches emphasize collaboration between teachers and students and focus on higher-order skills. These approaches are holistic in nature and place strong emphasis on development of communication skills.

Willig, Swedo, and Ortiz (1987), in studying language minority students in special education, found that the academic activities associated with the most intensive and prolonged levels of task engagement draw heavily upon, and encourage expression of, students' experiences, language background, and interests. They also foster feelings of success and pride in accomplishment, give children a sense of control over their own learning, and include peer collaboration or peer approval. Furthermore, they are holistic in nature in that they do not involve learning or drilling of isolated, decontextualized segments of information. Activities that present decontextualized information in drill format are among those producing the lowest rates of engagement and success rates. These findings support Cummins' (1984) hypothesis that reciprocal interaction strategies are more effective than direct instruction for language minority students, including those with learning disabilities.

Reducing Inappropriate Referrals to Special Education

Prereferral intervention involves training teachers in diagnostic/prescriptive or clinical teaching approaches (Lerner, 1976). According to Adelman (1970), teachers should be taught to routinely sequence instruction as follows: (a) teach content, subjects, or skills; (b) reteach skills or content using significantly different strategies to accommodate individual learning styles and needs and for the benefit of students who fail to meet expected performance levels after initial instruction; and (c) refocus instruction on the teaching of prerequisite skills for students who continue to experience difficulty even after approaches and materials have been modified. To use this approach, teachers should be familiar with a variety of teaching strategies and with informal techniques for assessing students' behavior and achievement. Teachers who are skilled in sequencing instruction and observing and analyzing student performance are better able to meet student needs, monitor progress and modify instruction as necessary. Diagnostic/prescriptive approaches to teaching create an environment which is more conducive to academic success because they provide a way for teachers to validate learning problems and then tailor instruction to students' specific instructional needs.

The AIM for the BESt model proposes to improve the academic performance of language minority students in regular and special education programs. The model is designed to reduce inappropriate referrals of language minority students to special education. It further aims to reduce bias in special education assessment procedures.

A support system, other than referral to special education, should be available to assist teachers with student-related problems. Several alternatives for prereferral problem-solving have been suggested, including Child Study Teams (CST), Student Assistance Programs (SAP; Fields, 1988), and Teacher Assistance Teams (TAT; Chalfant, Pysh, & Moultrie, 1979; Chalfant and Pysh, 1981). These variations differ primarily in the composition of the problem-solving team: TATs are comprised of regular classroom teachers; SAPs and CSTs generally include specialists such as psychologists, special education teachers, nurses, counselors, and administrators. In all instances, the intent of the team is to exhaust the possibility that a student's problems can be handled in the context of regular education before considering a special education referral.

The researchers suggest that teacher support teams be used as a vehicle for prereferral intervention. There are numerous ways of organizing such teams; in some models the teams consist solely of regular classroom teachers, but in others, administrators and other school personnel serve as team members.

If the recommendations of the support team prove to be of no avail within a reasonable period of time, a referral to special education is appropriate. The team's records describing efforts to resolve student difficulties accompany the referral. This information helps referral committees and assessment personnel tailor their evaluations to the specific needs of the student, since precise information about teacher concerns and student behaviors, and the success or failure of adaptations of instruction, is documented.

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There is a lack of appropriate instruments for determining whether a language minority student needs special education services. The implementors of AIM strongly suggest supplementing standardized instruments with informal assessment measures.

Reducing Bias in Assessment

When language minority students are referred to special education, assessment personnel must be able to obtain accurate data to determine whether a limited English proficient student is eligible for special education services. Dew (1991) points out that "standardized tests are believed to underestimate linguistically diverse students' abilities (p. 234)" and notes that problems in test content, construction, and use have been documented in the research literature. Additionally, standardized tests which accomodate students' linguistic and cultural characteristics are often unavailable. Standardized test results are, therefore, often of limited utility in determining the presence of a disability and in planning instruction.

One alternative is the use of informal assessment instruments and strategies to support or refute the outcomes of standardized testing. Informal assessment emphasizes the collection of data which are naturalistic, flexible, open, idiosyncratic and descriptive rather than numerical and standardized (Guerin & Maier, 1983). Informal assessment techniques offer several advantages over standardized testing: (a) the child's progress can be located on a continuum of skills rather than simply compared to the progress of others; (b) results of assessment can be used to plan instruction; (c) the assessment situation may be less intimidating to the child than a standardized testing situation; (d) more subtle changes in performance than would be shown by a standardized test can be measured; and (e) assessment can be carried out using any language or combination of languages (Ambert & Dew, 1982). This final advantage is of particular importance for limited English proficient students, since the presence of a disabiity should be documented in the native language as well as in English. The AIM for the BESt model suggests that comprehesive evaluation include both norm-referenced assessment and systematic, informal measures to increase the likelihood of an accurate diagnosis.

Major Features of the Model

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The AIM for the BESt model incorporates three major types of interventions. An effective prereferral process includes three phases: (a) training regular classroom teachers and special education teachers in effective instructional strategies (Step 1); (b) training teachers to validate students' learning problems (Step 2); and (c) using campus-based problem-solving teams to help teachers resolve students' academic and behavioral problems (Step 3). The decision to refer students to special education is made only after exhausting all possibility that problems can be resolved through prereferral intervention (Step 4). When referrals occur, assessment personnel use a systematic informal assessment process to support or refute the outcomes of norm-referenced testing (Step 5). In the AIM for the BESt model, it is unacceptable to place language minority students in special education solely on the basis of norm-referenced instruments. Finally, if the student does require special education services, such services must accommodate linguistic and cultural differences (Step 6). Without specific accomodations designed to address the needs of culturally and linguistically different students, it is unlikely that special education programs can lead to real improvement in educational performance and, in fact, they may keep students functioning at low levels (Cummins, 1984).

The research collaborators outline the steps in the AIM for the BESt model in the flowchart on page 7. The steps are also summarized in the Appendix on page 27.

Effective Instructional Practices

Reciprocal interaction approaches which facilitate the acquisition of literacy include such techniques as shared book experiences (Roser & Frith, 1983), language experience approaches (Dixon & Nessel, 1983), process-oriented writing (Graves, 1983), or journals or dialogue journals (Staton, 1987). Interactionist approaches can also be applied to the content areas (e.g., the Finding Out/Descubrimiento science curriculum; DeAvila & Duncan, 1982).

Shared Literature and Graves Writing Workshop are examples of effective instructional practices for language minority students because they incorporate all of the characteristics of reciprocal interaction teaching. These approaches are based on collaborative, cooperative learning with ample opportunities for interaction among the teacher and students in an academic context, thus facilitating the development of language skills which are requisite to becoming highly literate. The approaches focus on higher level cognitive skills which lead to mastery of basic skills, rather than vice-versa.

Overviews of Shared Literature and Graves Writing Workshop as well as a list of Shared Literature titles are provided in the Appendix on pages 29 through 33.

Shared Literature

This instructional strategy is based on a story reading approach to language and literacy development. Students are exposed to a rich print environment and to award-winning children's literature. As a result of this exposure to challenging and interesting books, the children develop their oral language and reading comprehension skills, and become familiar with authors and illustrators. The students learn about a variety of writing styles they will encounter in texts; this knowledge of style and genre supports the creative writing process in which they will also be involved (Roser & Frith, 1983). Additionally, story reading provides comprehensible input exposing students to language they need to acquire but which is a little beyond their current functioning level (Krashen, 1982).

Shared Literature is a way of engaging students and teachers in interactive reading activities. Teachers read aloud books from a unit which have been grouped because they share a common theme, for example, stories about brothers and sisters.

Through Shared Literature experiences, students are exposed to different thematic units. Picture book units, which are used with students in kindergarten through third grade, are organized in four distinct ways. The ten books

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When Shared Literature is used with younger students the teacher reads a diifferent picture book aloud to the class each day. With older students the teacher reads a chapter or two from a longer selection. Before reading, the teacher introduces the text and sets the stage for discussion. Language charts are used to collect students' responses to the readings.

Unit guides are available from the Language to Literacy project at The University of Texas at Austin [see Contacts and Materials Available, p. 19]. The full text of a sample unit for the theme "On My Own" begins on page 39.

A purpose of Shared Literature is to create an environment that promotes a fondness for stories and print materials. Therefore, special care is taken to create comfortable reading centers.

comprising a unit are either collected works of one author or illustrator such as *Steven Kellogg: Author/Illustrator*; focus on a specific topic such as *Cats, Cats, Cats;* explore a theme such as *Courage*; or typify a particular genre such as *Cumulative Tales*.

Students in the fourth and fifth grades are exposed to chapter book units, in which the teacher reads a chapter from a focus book each day. Focus books include historical fiction, fantasy, biography, realistic fiction, mysteries, folktales, and survival stories. Chapter book units also incorporate opportunities for students to read independently. Each unit includes one of the following: individual copies of the book the teacher is reading; copies of a companion book written by the same author or exploring a similar theme; several selections which are compatible with the focus books from which the students can choose independent reading materials, or a variety of other literary forms such as books of poetry or appropriate reference materials.

An important aspect of the Shared Literature approach involves collecting on a language chart students' reactions to the stories being read. This language chart serves as a guide for exploring either the commonalities among picture book selections or the development of some aspect of a chapter book. It becomes a permanent record of the students' experiences with literature.

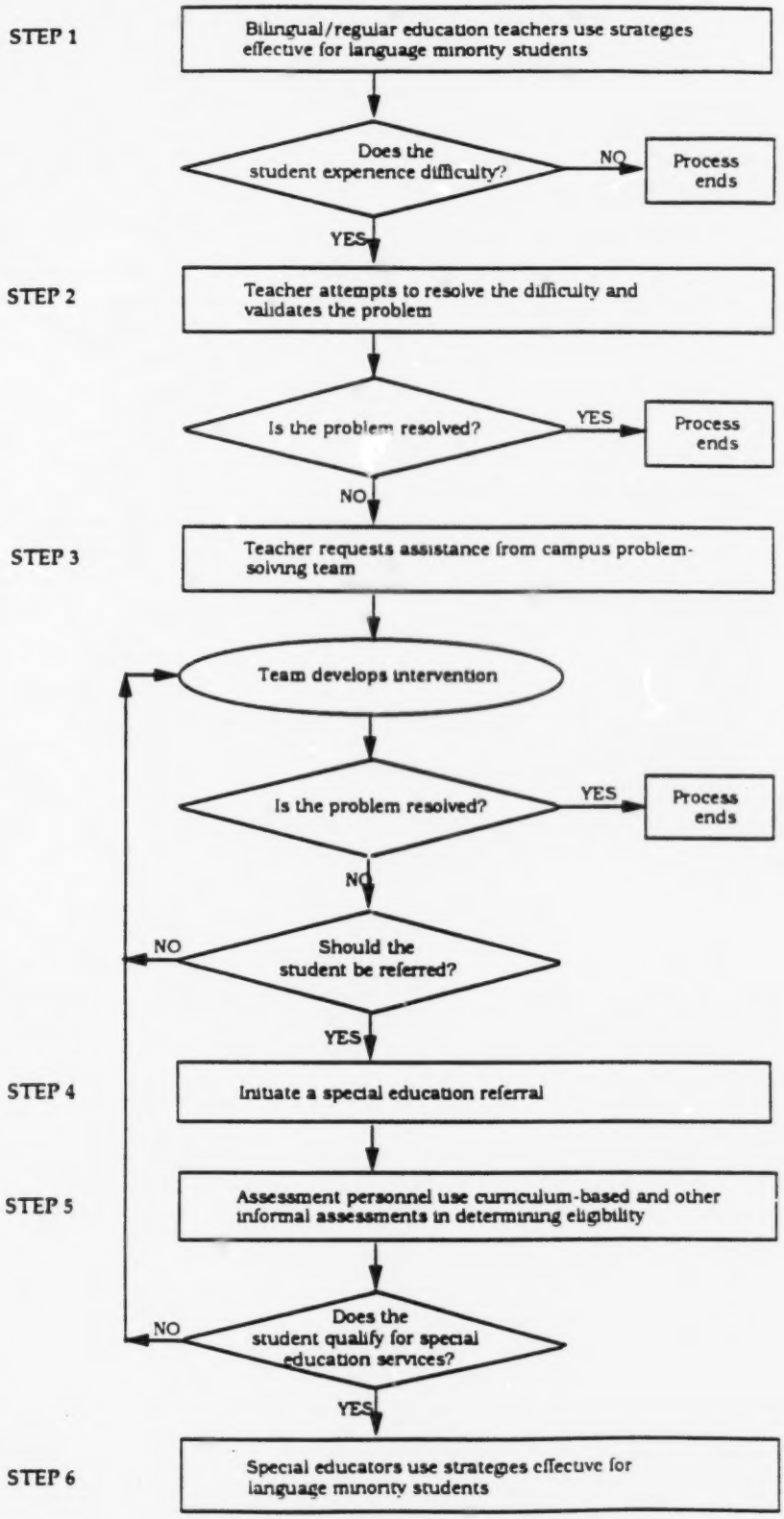
Teachers implementing Shared Literature are provided unit guides which include: (a) activities to introduce the unit; (b) activities to introduce each book in the unit; (c) follow-up activities which focus on eliciting student responses to the stories read and exploring the commonalities among the selections; (d) sample language charts; and (e) lists of other books that complement the unit which can be placed in the class library. Because the focus is on reciprocal interaction, ample opportunities are given to discuss the stories and to allow students to respond to the literature (e.g., through writing, art, drama activities, etc.). Responding to the readings provides students with opportunities to expand and refine their language skills.

Teachers also create classrooms that help children like and enjoy books (Hickman, 1983). In these classrooms, students have access to well-selected books and teachers personally introduce books to specific students to stimulate interest in reading. Students are given time to browse, choose books, and to read on their own. Their responses to literature are shared and displayed. The class library center is located in a quiet area of the room and is both visually and physically accessible to the students. The center accomodates several students since reading is an interactive process. Books are displayed with their covers showing so that students are drawn to the library center by illustrations and titles they can easily see. The library also contains elements of "softness" (e.g., pillows, beanbags, rugs) so that students can relax and enjoy their reading, very much as adults do.

Graves Writing Workshop

The Writing Workshop (Graves, 1983) was used as a framework for process oriented writing. This approach includes activities that are holistic and rich in meaningful reciprocal interaction. As a whole language approach, the Writing Workshop actively engages students in generating meaning from text, provides on-going feedback, and is developmental in nature. In contrast to direct instruction models, it encourages the integration of communication, handwriting, spelling, grammar and vocabulary. As with Shared Literature, this approach emphasizes meaningful dialogue between students and teachers; it promotes student engagement in a collaborative learning context, the development of higher-order thinking, and intrinsic motivation (Cummins, 1984).

The AIM for the BESt Flow Chart for Program Planning



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The Graves Writing Workshop is a collaborative and process-oriented approach to writing. Students choose their topics and write independently. Later they edit their writing based on comments from their classmates and the teacher. Completed writings are bound as books and placed in the classroom library centers.

Because literacy develops in real-life settings in the context of real-life activities with purposes and goals (Teale & Sulzby, 1986), teachers should actively engage students in the writing process by having them write about personal or literary experiences for the purpose of communicating with an audience. Genuine dialogue among students, as well as between teacher and student, is an essential element of the Graves approach. Students are expected to take ownership of their writing; this is accomplished through the encouragement of student-generated topics, invented spelling, and students' commitment to revise, edit and publish their work. Teachers can facilitate the process by devoting the first five minutes of each lesson to their own writing, modelling the process, including periods of "writer's block", and strategies for its alleviation.

The workshop begins with the children's selection of a topic. The teacher can facilitate this step in the process by initiating an all-class share time on topic selection, allowing children access to one another, conferencing with students about things relevant to their needs and current interests, and having them maintain a list of topics that they can write about. Children then write for 15-20 minutes everyday, during a predictable time. The teacher conferences with students as they write, answering questions individually, and providing encouragement. The focus of this first conference is on topic generation and development. It may be a prolonged conference for some children, at which time the teacher acts as a sounding board or asks probing questions if the writers are blocked; or, it may be a short exchange, when the teacher expresses value for what students have written. Once students have completed a draft, they are brought together to talk about their writing. This may be a somewhat formal procedure, in which three to four students address the class from "the author's chair" and read from their works in progress, or a more informal meeting, in which a group of children conference to discuss ideas, exchange questions, and learn more about an author's subject.

When students make the commitment to rewrite, revisions are made based on input from peers, teacher, and students' own research on a topic. A second conference, focusing on the clear communication of ideas to those who will read the author's work, is held. The draft is read aloud, while the teacher listens carefully for meaning and clear organization of ideas. The teacher then responds, paraphrasing the content, eliciting clarification, offering encouragement and praise, and seeking the writers' commitment to prepare for publication. An alternative or complement to student-teacher conferences at this stage of the process is the use of peer writing groups. During these meetings, students give compliments, express their feelings and responses to a given text, offer the author choices concerning possible revisions, and help work through trouble spots.

When authors determine that their texts have been sufficiently developed, they edit their work in preparation for publication. A final conference, focusing on the mechanics of writing, is then held. The teacher evaluates the text, helping students develop a plan for correcting their errors, providing instruction in the context of the writing in progress, and planning lessons around needed skills. Children are encouraged to edit for those skills that are appropriate for their ability and stage of development. In editing for spelling and punctuation errors, for example, children may be requested to circle words they have spelled correctly, to underline words that they believe are misspelled, and to indicate where they think punctuation is missing. This instills in children a sense of pride in the skills that they do have, rather than focusing on those skills they have yet to master. Students make as many corrections as possible, perhaps meeting with peers to help with final editing, and then recopy the draft.

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The final stage of the writing process is the students' decision to publish. Students will probably publish one piece every two weeks, depending upon their age. However, the teacher may need to help with this decision; for example, they may encourage reluctant authors to ready their work for publication. Finished stories are bound; books include Title and "About the Author" pages. Books are then displayed in the class library center along with the trade or commercial books, for other students to check out and read. A final share time is planned, where authors read from their published works.

School-Based Problem-Solving Teams

In the AIM for the BESt model, campus-based problem-solving teams are called Student/Teacher Assistance Teams [abbreviated as STAT in the text, ed.]. Members of the campus-based problem-solving team either volunteer to serve, are elected or appointed, depending on the model being followed. Chalfant and Pysh (1981) suggest that membership be limited to 4 or 5 members and the teacher requesting assistance. At least one of the team members should have experience associated with the education of linguistically and culturally different students, including those who are limited English proficient (Garcia & Ortiz, 1988). One member is designated as the team coordinator; his or her primary duties are to review the requests for assistance, ensure that behavior observation checklists are completed, and schedule and chair team meetings.

In the AIM for the BESt model, a team takes on the responsibility of refining the educational program of a student who might otherwise be referred to special education. This team is called a Student/Teacher Assistance Team (STAT). An overview of the STAT is provided in the Appendix on page 35.

In the AIM for the BESt model, implementing the STAT process begins with a meeting to explain the purpose of the teams and the team approach to faculty on the school campus. These faculty then elect team representatives. It is preferable that the core teams consist of regular classroom teachers representing each grade level. (It is also possible to include campus administrators, counselors, nurses, special educators, and/or appraisal personnel, in addition to the regular classroom representatives.) Typically, teams meet before or after school to conduct problem-solving meetings.

The team process usually proceeds as follows:

- *The teacher requesting assistance submits a form to the team coordinator.*
- *The coordinator distributes the request and relevant information to the team members.*
- *A team meeting is held to determine the best plan of action.*
- *An intervention plan is developed and implemented.*
- *Follow-up meetings are held to review progress and outcomes.*

■ Teacher Referral

The teacher identifies a student-related problem and submits a brief, written summary of the problem to the STAT coordinator. The summary includes a description of (a) the performance the teacher desires of the child; (b) the student's strengths and weaknesses; (c) interventions already attempted and their outcomes; and (d) other relevant background information, including any available assessment data.

■ Review of Referrals

The STAT coordinator reviews the referral and, if necessary, confers with the referring teacher to clarify data or to obtain additional information about the problem. The coordinator then disseminates copies of the referral to the members of the team. Classroom observations or meetings with the teacher are scheduled to obtain additional information. Team members review the information, pinpoint problem areas, study the interrelationships among these areas, and develop their own recommendations prior to the STAT meeting. With the consent of the teacher, one of the team members visits the classroom and observes the child to gather additional insights into the problem.

■ Problem-Solving Meeting

A STAT meeting is held for 30 minutes during which team members: (a) reach consensus as to the nature of the problem; (b) negotiate one or two

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objectives with the referring teacher; (c) select the methods, strategies, or approaches the referring teacher will attempt; (d) define responsibility for carrying out the recommendations; and (e) establish a follow-up plan to monitor progress.

■ Recommendations

The products of the STAT meeting are specific recommendations for individualizing instruction for the student, recommendations for informal assessment to be conducted by the child's teacher or by team members, and/or referral for special help, including, if the team deems it necessary, referral to special education. Referrals for special help can be teacher—rather than child—focused (Garcia & Ortiz, 1988). For example, an instructional strategy which is unfamiliar to the referring teacher may be recommended. The teacher can request inservice training to learn the strategy, other members of the faculty who have expertise in the recommended approach can demonstrate the strategy, or the team may recommend that the child be integrated into a classroom where such instruction is already being provided.

■ Follow-up Meetings

These meetings are held to review progress toward solving the problem. If the problem is resolved, the teacher has learned techniques which can be used in similar cases; if the interventions were not successful, the team repeats the brainstorming process and selects alternative strategies.

Informal Assessment

Curriculum-Based Assessment seeks to use assessment as a way of refining instruction. It measures a student's performance using actual classroom curriculum so that teachers may adjust their instruction to the real needs of students. An outline of Curriculum-Based Assessment is found in the Appendix on page 37.

A number of techniques and strategies can be used to carry out informal assessments. Teachers may use observations, work sample analyses, criterion-referenced tests, checklists, informal inventories, interviews, questionnaires and/or task analyses to obtain data about a student (Guerin & Maier, 1983). Sensorimotor development, intellectual functioning, academic achievement, language development and proficiency or any other area of interest can be informally evaluated.

Many informal instruments are fairly simple, and consist of a short inventory which is filled out by an assessor or other examiner. However, more structured systems of informal assessment have also been developed. For example, Curriculum-Based Assessment (CBA; Tucker, 1989) is a system for determining the instructional needs of students based on their ongoing performance in existing course content, and for delivering instruction as effectively as possible to match those needs. The system is based on the premise that if teachers carefully determine the instructional match among what students *need to learn*, what students *already know*, and *how much* and *how fast* students can learn, students will have a much better chance of learning new material. To conduct a CBA, the assessor selects a method of measurement (e.g., an informal reading inventory). Assessment is carried out using actual materials from the student's classroom. Based on the results, a judgement is made as to whether the curriculum is at the student's independent, instructional, or frustrational level. The student's entry level skills, where in the curriculum materials the student should begin, and what s/he needs to learn are determined. Interventions are based on the outcomes of the assessment and, in this way, can be more precisely tailored to the student's instructional needs. Repeated measurements are used to fine-tune instruction and to track progress.

What Do I Do?

There are four critical factors necessary for the successful implementation of the AIM for the BESt model. First, those considering adopting the model should develop a plan to move toward implementation of all the components of the model in a unified and comprehensive way. Ultimately the effectiveness of the model is dependent on the interrelated use of the STAT process, informal assessment, and effective instructional practices. Second, administrative support is essential. Since the program is a comprehensive one, it will be critical to ensure school-level support for the innovations. Third, careful attention must be given to determining who will be involved in implementing the model. Finally, all participants must understand the service delivery process which is being proposed as well as the nature and purpose of the features of the model.

There are three training components: first, regular and special education teachers must receive substantive training in using effective instructional practices such as Shared Literature and Graves Writing; second, training in the processes for effective functioning of campus-based problem solving teams for prereferral intervention; and third, training in the use of informal assessment as a tool for reducing bias in assessment as well as monitoring students' learning. This section elaborates the support needed for successful implementation of the model and training that would be appropriate for each component.

Environment for Success

A Unified Approach

The AIM for the BESt model was designed as a comprehensive service delivery process. The model is based on the assumption that resolving issues associated with the education of language minority students requires a multifaceted approach, rather than isolated interventions (e.g., developing non-biased assessment procedures but not training special education teachers to effectively serve second language learners with disabilities). Thus, it is strongly recommended that a plan be developed which will ultimately allow the district to establish the comprehensive service delivery process suggested by the model.

Administrative Support

Implementation of the AIM for the BESt model requires system wide commitment since interventions are targeted at educators working in a variety of programs. It is thus important to have strong support from district and campus level administrators. Administrators can create environments conducive to success of the model by demonstrating their support, interest, and involvement in its implementation and by providing the necessary resources to ensure its effectiveness. Administrators and supervisors are also key players in monitoring implementation to ensure that it is proceeding as expected and in identifying issues or concerns needing attention. If at all possible, a coordinator to oversee implementation should be designated. The coordinator may be a district-level person, but someone should also be given responsibility for overseeing implementation at the school level. Ideally, this would be the school principal.

It is critical that administrators communicate their support of the model to the teachers and provide encouragement as they change their approaches to instruction. Teachers may need to be told that they have the freedom to experiment in their classes with strategies aimed at improving student performance. For example, while teachers may see the value of reciprocal

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The research collaborators note that school-level support for the approach is critical and that school personnel can be strong advocates for the program. It is mentioned that teachers may feel a tension between the positive learning outcomes of the instructional components and the need to prepare students to take state-mandated tests.

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interaction approaches, teachers may be reluctant to replace traditional approaches with interactionist approaches if they perceive that state-mandated achievement tests are more consistent with transmission-oriented, skill-specific teaching. Unless they perceive that they have the support of their administrators, these changes will not occur.

Comprehensive Staff Training

The effectiveness of the model is dependent upon the quality of training and the level of adoption across programs. While the AIM for the BESt model focuses on training bilingual education, English as a second language, and special education teachers in effective instructional approaches, effectiveness is increased by also involving regular classroom teachers since it is into their classes that students are transitioned when they become English proficient. The training for school-based problem-solving committees involves the members of the team so the decision as to whom to train is straightforward. However, all teachers should be encouaraged to utilize the team process. To this end, all campus personnel should be provided information about the purpose of the team and how they can access its services. Training in informal assessment strategies needs to be provided for educational evaluators and should be made available to teachers as well.

Training in each of the components is critical for the successful implementation of the model. Program planners should be prepared to allocate sufficient training time. While training could be accomplished in one year, the research collaborators recommmend a two-year cycle to optimally prepare teachers and school personnel for implementing the AIM for the BESt model.

Training Goals and Procedures for Each Component

The amount of time required for implementing the major features of the AIM for the BESt model will vary greatly depending on number of personnel and schools involved. Training could be accomplished over a year, but stabilizing the implementation will require a minimum of two years of training. Being able to measure actual effects on student performance is likely to take even longer.

Successful implementation requires that staff development not be a "one time, one shot" activity. Follow-up activities should be scheduled to help participants with the implementation process. Both training and follow-up should be planned to allow for sharing ideas among teachers and other personnel participating in the program. Flexible scheduling and release time for teachers and others to meet to share ideas and discuss problems and issues associated with implementation of the features of the model must be provided.

Training in Effective Instructional Practices

Shared Literature, a six-hour training session is adequate for introducing teachers to the Shared Literature approach. The training includes: (a) an introduction to Shared Literature and to the units themselves, (b) guidelines for establishing library centers, (c) effective strategies for sharing literature and promoting comprehension, (d) suggestions for obtaining student responses to the stories read, including the use of language charts, (e) a discussion of adaptations which may enhance the use of Shared Literature with students in various grades and with differing levels of English proficiency, and (f) procedures for developing additional Shared Literature units. If possible, training should include school librarians.

An introduction to the Graves Writing Workshop can be accomplished in a six-hour training workshop. The schedule for training can be configured in a number of ways; Graves training can be provided after teachers have used the Shared Literature approach for up to one semester or training in both approaches can be provided concurrently. The Graves Writing Workshop training includes: (a) the rationale for the approach, including, but not

limited to, characteristics of effective instruction, and diagnostic teaching and process oriented approaches; (b) basic principles for the teaching of writing, including, the dynamic relationship between reading and writing, ways to encourage writing in the classroom, the use of invented spelling, and characteristics of good writers; (c) an overview of the components of the Graves process (i.e., topic choice, writing, conferencing, sharing, revising, editing, and publishing); (d) teacher guidelines and procedures for conducting the Graves Writing Workshop; and (e) modifications for preliterature learners and/ or LEP students dominant in the first language.

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Training for Student/Teacher Assistance Teams (STATs)

Prior to training, a faculty meeting is held to familizarize the staff with the STAT process. A one-day training session is then provided for team members. Training for team members focuses on (a) the purpose of the team, (b) record keeping procedures, (c) procedures for conducting team meetings, and (d) problem-solving strategies. The team then develops a Request for Assistance packet and determines how they will operate on their campus. A second faculty meeting is held to explain to teachers how they can request assistance from the team. The team then asks teachers to "volunteer" cases which it will use to pilot and refine its procedures.

Training in Informal Assessment

Initial training for district personnel can be accomplished through a two-day (12 hour) workshop which includes: (a) basic premises about teaching and learning; (b) the CBA model; (c) an overview of the four phases of CBA—measurement, analysis, design, and implementation; and (d) demonstration and practice of CBA with students in the area of reading. Guided practice in administering assessment procedures, interpreting outcomes, developing intervention plans and monitoring student outcomes should be provided.

Monitoring Project Implementation

The effectiveness of a newly implemented program comes about through consistent examination and evaluation of the program's process and outcomes. The AIM for the BESt research collaborators recommend the use of regular evaluations to examine changes occurring in the educational program as a result of the interventions and to determine further training needs. Some of the following questions may be helpful in monitoring implementation:

- How effective is the training provided by researchers?
- Have school personnel implemented school-based problem-solving teams, Curriculum-Based Assessment, and/or effective instructional practices, (i.e., Shared Literature and the Graves Writing Workshop)?
- What aspects of the implementation appear to be successful? Which require modifications?

The effectiveness of implementation can be further ensured by timely formative evaluation. The research collaborators list some evaluation questions and also identify some instruments which may be useful, including the Stages of Concern Questionnaire (SoC) and the Lewis Reading Attitude Inventory.

It is critical that support be provided during the implementation phase. This can be accompliished in several ways, including having principals, instructional coordinators, staff development specialists, or peers provide technical assistance. Classroom observations can help pinpoint problems. Periodic meetings among users of the innovations are useful in facilitating the exchange of ideas for modifications and adaptations, as well as in resolving potential problems in a timely manner.

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Monitoring Project Effects

■ Shared Literature and the Graves Writing Workshop

A variety of measures can be used to assess student outcomes. Samples of students writing can be examined using a holistic or a case study approach to determine project effects. In addition, students can provide feedback about instructional activities. They can be asked to identify the things they like and do not like about these approaches, and to identify their favorite stories and/or type of writing.

Questionnnaires can be used to allow teachers to identify elements of Shared Literature and the Graves Writing Workshop which they are able to successfully implement and those that are more difficult. Questionnaires directed toward teachers can also provide information regarding the effects of the project on student performance.

■ STAT Assistance Teams

Information can be collected regarding the number of cases deliberated by the team and their disposition. Data to be considered might include the number of teachers requesting assistance from the team, the nature of the recommendations made, the success of those recommendations, and the number of cases resolved without referral to special education. Observation of team meetings can also be used to analyze and modify STAT procedures.

■ Curriculum Based Assessment

Questionnaires and/or interviews can be used to monitor teachers' and assessment personnels' use of CBA. Items might focus on users' perceptions of the method's strengths and weaknesses, and any difficulties they have encountered in using the techniques. Intructional personnel should be asked about the effects of CBA on their instructional planning; assessment personnel should be asked about its effects on special education eligibility decisions.

Resources Required

AIM for the BESt can be implemented in a relatively economical way. The costs involved are those associated with consultants for training, release time for participants, and materials.

The resources required for implementation of an AIM for the BESt model are not extensive. There are three general areas that require monetary resources: consultant salaries for trainers, expenses associated with release time for participants, and costs of instructional materials for Shared Literature and Graves Writing.

Costs for instructional materials are fairly reasonable. The AIM for the BESt project used the Shared Literature units developed by The University of Texas at Austin's Language to Literacy Project and by AIM for the BESt staff. The price of unit guides is $3.50 each; costs of buying the books range from $75 to $150 per unit. While this is a significant expense, it is a one-time investment. Additional costs in subsequent years are associated with replacing lost or damaged books and/or adding new units. Costs may be lowered by using books already available in school libraries. Librarians are excellent resources in that they can also suggest alternative selections for a unit if some books are not available or out of print.

The costs associated with Graves Writing are minimal. Materials for a writing center—paper, pencils, scissors, markers, colors, tape, folders, and materials for book covers—will be needed. An allocation of $50 to $75 per teacher would help keep classrooms well stocked with writing supplies. It is also possible to have supplies donated. For example, wallpaper and fabric stores may be willing to donate remnants or discontinued patterns for use in covering students' published works.

Results to Be Expected

Components of the AIM for the BESt Model were tested through the Innovative Approaches Research Project. These included the use of effective instructional strategies by bilingual education and ESL teachers (Step 1 of the model) and by special education teachers (Step 6). In the IARP study, teachers were trained in the use of Shared Literature units and the Graves Writing Workshop. Student and Teacher Assistance Teams (STATs) were established on four elementary campuses and the outcomes of cases considered by the team were monitored. Finally, assessment personnel were trained in the use of Curriculum Based Assessment in hopes that this process could be incorporated into the comprehensive individual assessment.

The study occurred in a Central Texas school district located along the corridor between Austin and San Antonio. The district serves approximately 6,000 students in grades K-12. The student enrollment is 59% Hispanic, 37% white, and 4% Black. Approximately 42% of the students receive free or reduced price lunch. More than 30% of the Mexican American families in this community earn an annual income below the national poverty level. Of the total special education population of 700 students, approximately 47% of the children also qualified for bilingual education or English as a second language programs. The majority (98%) of the district's handicapped language minority students were in programs for the learning disabled or the speech and language handicapped.

The district's four elementary schools served as the pilot sites. There were two primary campuses (K-2) and two intermediate (3-5) campuses; each served approximately 700 students.

The results of the two-year pilot test indicate that implementing a service delivery system such as the AIM for the BESt model holds promise for improving the delivery of educational services to language minority students. In this section, a brief overview of the pilot study results is given.

Effects of Shared Literature and Graves Writing Workshop

The Shared Literature component improved the students' responsiveness to literature. Teachers reported changes in students' awareness of story structure, improved reading vocabulary and comprehension, and increased proficiency in oral and written expression. Qualitative indicators suggest that teachers observed changes in both the students' attitudes and skills. All students, including those with disabilities, were seen as benefiting from the project.

Case study analyses of special education students' writing also showed promising results for the Graves Writing approach. Writing samples for two groups of special education students were compared. One group was taught by the teacher who was judged by project staff to be the best implementer of the Graves Writing Workshop among the teachers trained; the other group of students was taught by a teacher considered to be very effective who had not yet been trained in the use of the Graves approach. The amount of writing produced by students in the Graves classroom doubled from the pre- to the post-test. While the organization of student writing improved only slightly, the quality of communication moved from being rated as mostly incomprehensible to being rated as adequate for comprehension. In the comparison classroom, the amount of writing decreased significantly from the pre- to the post-test and scores for both quality of organization and communication were lower. Students' writing in the comparison class was characterized as poorly organized and mostly incomprehensible.

Teachers and school personnel who participated in the pilot study expressed highly positive feelings about the Shared Literature and Graves

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The AIM for the BESt model was piloted in a school district in the southwestern part of the United States. The selected district has a high level of Hispanic enrollment; it is also characterized by low-income households. Approximately 3,000 students were served by elementary schools in the district.

The results of the pilot show positive outcomes in all areas of the model. The instructional component tended to improve the students' writing skills as measured by holistic analysis of student writing samples.

Teachers also observed changes in students' attitudes toward reading and reading-related tasks. Students became more aware of the structure of literature and improved their vocabulary and comprehension.

Informal indicators of the program's success were also noted. For example, teacher participants became more enthusiastic and involved in their work.

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Writing approaches. Teachers saw both themselves and their students as having greater appreciation of, and experience in, reading and creative writing. They saw Shared Literature as an exciting and enriching extension of ongoing language arts activities. Teachers also reported changes in their own behavior and attitudes toward teaching reading and writing, noting that they felt more energized, enthused, and involved.

Effective Intervention: Student/Teacher Assistance Teams

School-based problem-solving teams were implemented at all four participating schools. Members either volunteered or were appointed to these Student and Teacher Assistance Teams (STATs). The core team at each school consisted of a campus administrator, counselor, nurse, regular classroom teachers (usually one representative from each grade level), a special education teacher, and an educational diagnostician. Variations in the team membership occurred. For example, one of the K-2 campuses also involved the physical education teacher.

The Student/Teacher Assistance teams proved effective in resolving problems. While there was year-to-year variance, approximately seventy percent of the cases deliberated were resolved without referral to special education.

The majority of requests for assistance received by the STATs were related to behavior or discipline problems; the second most common area of concern was academic achievement. In the first year, 49 requests for assistance with student-related problems were considered by the four teams. Of these, 38 of the problems (78%) were resolved through the team process; 11 students (22%) were referred to special education. In the second year, of the 51 cases considered, 35 (69%) were resolved by the Student and Teacher Assistance Teams and 16 (31%) were referred to special education. Among the 100 requests for assistance which occurred over the two-year period, the majority were resolved by the regular classroom teacher and/or were resolved using alternatives to special education placement.

The research collaborators found that the teams can also identify issues that concern school personnel on a campus. One STAT surveyed its campus, learned that school discipline was a critical issue, and developed a discipline management plan.

These data suggest that school-based problem-solving teams are an effective vehicle for prereferral intervention. One of the greatest benefits of the STAT is that the process helps identify problem areas or training needs, which, if addressed, can help school personnel deal more effectively with students' learning and behavior problems. For example, at one of the K-2 campuses, the team identified discipline referrals (to the team and to the principal) as being one of the most common concerns on the campus. They conducted a discipline survey in which they asked teachers about behavior problems they observed (e.g., on the playground, at lunch, in the restroom). Teachers suggested possible consequences for misconduct and identified those offenses which warranted immediate action from the principal. The team also responded to questions such as whether they favored eliminating privileges for students who violated school rules frequently and whether children with emotional problems should be handled in the same way as other children. The STAT then drafted a school discipline management plan based on the results of the survey.

Curriculum-Based Assessment Techniques

In the pilot of the AIM for the BESt model, asssessment personnel (i.e., educational diagnosticians) were trained in the use of Curriculum Based Assessment (CBA). However, it was readily apparent that because of the teach-test process involved in CBA and its emphasis on continuous monitoring of student progress, this particular approach to informal assessment is better utilized by regular classroom teachers. The AIM for the BESt model was thus modified to include training for regular classroom teachers in diagnostic/prescriptive teaching approaches and in informal assessment processes such as CBA.

Two issues stand out in the implementation of the CBA techniques. First, it is very important to train classroom teachers in the approach. Second, it is desirable to have bilingual evaluators trained in the CBA technique so that dual language assessment can be facilitated.

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The model also suggests, however, that assessment personnel use informal measures which parallel the types of assessments involved in norm-referenced testing, so that the outcomes of standardized testing can be compared against descriptive, "authentic" assessments grounded in the curriculum and materials to which LEP children are exposed on a daily basis. The researchers suggest that poor performance on both types of measures, coupled with information about the effectiveness of instruction, is a better indicator of the measure of a disability.

Since the CBA approach requires ongoing monitoring of student performance, it is most effective to train regular classroom teachers along with special education assessment personnel. Informal assessment practices could then help teachers validate learning problems. Moreover, it is difficult to assess students with limited English proficiency without access to bilingual evaluators. If bilingual education teachers were trained in informal assessment procedures, such as CBA, they could present systematic data about student performance in relation to the areas of concern in both the native language and in English. These data would be correlated with the actual curriculum and materials being used in the classroom. The results of teachers' informal assessments, could be compared with outcomes of standardized testing and both sets of information could be used to determine special education eligibility.

A Vision for the Future

Many benefits can be anticipated from implementation of the Assessment and Intervention Model for the Bilingual Exceptional Student. First, serving students in the mainstream is more cost-effective than placing them in special education, especially if the student is underachieving but not disabled. Language minority students will have a greater chance of achieving their social, political, and economic potential because they are provided an appropriate education and are spared the stigma of being incorrectly labeled as disabled. Implementation of effective instructional practices, along with a process for monitoring progress, can help assure that students who are disabled also achieve their potential. Moreover, training such as that required to implement the model can build self-efficacy and self-confidence among the service providers responsible for educating a dramatically changing student population, because these providers possess the skills to do so more effectively.

Second, there are benefits from creating and using Student/Teacher Assistance Teams. The teams can support personnel and students across programs. For example, team members provide valuable assistance for: (a) students who do not have a specific disability (e.g., slower learners, poor students, linguistically or culturally different students) but who present unique challenges to regular classroom teachers; (b) students who do not qualify for special education, yet who still need assistance; (c) students with disabilities who are mainstreamed into regular classrooms; and (d) students with disabilities for whom the special education teacher is having difficulty meeting instructional goals and objectives.

Participation in the team helps teachers develop skills in resolving the types of student-related problems they will routinely encounter in their classrooms. Moreover, by categorizing the problems for which teachers seek assistance, administrators can target staff development activities to specific concerns of teachers. Developing teachers' problem-solving skills can decrease dependence on removing students from the mainstream classrooms and placing them in special education programs.

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Third, the AIM for the BESt model clarifies the assessment process by training regular and special education teachers, as well as assessment personnel. Teachers become a critical part of the assessment team, providing data that are representative of student performance across time, contexts, and content, subject, or skills. Bilingual educators can provide these data across languages, thus making native language data available to school systems which do not have access to bilingual assessment personnel. The use of dual language data helps distinguish between disabilities and other background differences.

Standardized instruments are frequently linguistically and/or culturally inappropriate for language minority students. Informal assessment can be used to supplement information obtained from these instruments. Well-implemented informal assessment procedures can prevent the inappropriate placement of students into special education based on performance that actually reflects limited English proficiency or cultural diversity. Once an assessment is made, interventions can be developed to foster competence in the native language and English and to improve academic achievement in both languages.

The final benefit of the AIM for the BESt model is provision of a paradigm for training which can improve the delivery of educational services for both language minority and majority students.

Contacts and Materials Available

The following is a list of contacts who can provide information about the AIM for the BESt project.

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2924 Columbia Pike
Arlington, VA 22204
telephone 703 979 0100

Project Report

The following report is available by contacting Dr. Rivera:

Ortiz, A., Wilkinson, C.Y., Robertson-Courtney, P. & Bergman, A. (1990). *Assessment and Intervention Model for the Bilingual Exceptional Student (AIM for the BESt).* (Final Technical Report, Innovative Approaches Research Project). Arlington, VA: Development Associates, Inc.

Shared Literature Units

Arrangements for the purchase of the teacher guides for the Shared Literature Units can be made by calling or writing:

Ms. Rosalind Lee
Research and Development Center
Language to Literacy Project
College of Education
The University of Texas at Austin
Austin, TX 78712
telephone 512 471 7255

Stages of Concern

Information about the Stages of Concern Questionnaire is available by calling or writing:

Southwestern Regional Development Laboratory
Communication Strategies
211 E 7th Street
Austin, TX 78701
telephone 512 426 6861

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Appendices

Steps in the AIM for the BESt Model

Shared Literature Purposes and Procedures

Shared Literature Units: Typical Titles by Grade Level

Graves Writing Workshop

Using Student/Teacher Assistance Teams for School-Based Problem Solving

Curriculum-Based Assessment

"On My Own," a Shared Literature Unit

Steps in the AIM for the BESt Model

STEP 1

The regular classroom teacher uses instructional strategies known to be effective for language minority students.

⬇

STEP 2

When a student experiences difficulty, the teacher attempts to resolve the difficulty and validates the problem.

⬇

STEP 3

If the problem is not resolved, the teacher refers the student to a Student/Teacher Assistance Team (STAT). The team determines the most effective intervention. This usually involves the development of a plan to help the teacher resolve the problem. However, it may also involve referrals to other programs or to special education.

⬇

STEP 4

If the problem is not resolved by the STAT process, a special education referral is initiated. A summary of the Student/ Teacher Assistance Team's efforts accompanies the referral.

⬇

STEP 5

Assessment personnel incorporate informal and curriculum-based assessments in the comprehensive individual assessment.

⬇

STEP 6

If the child is placed, special educators use instructional strategies known to be effective for language minority students (e.g., Shared Literature Units and the Graves Writing Workshop).

SHARED LITERATURE UNITS

PURPOSES

- Exposes students to rich literature
- Prepares them for a variety of writing styles they will encounter
- Familiarizes them with authors and illustrators
- Supports the creative writing process
- Exposes students to language just beyond their grasp
- Fosters a love of books and reading

PROCEDURES

- Develop theme units for a two-week period
  - Include ten picture books (K-3)
  - Develop chapter book units for (3-5)
- Read a book each day to the class
- Complete a language chart or other student response activity

Shared Literature Units: Typical Titles by Grade Level

Each of these units includes two or more books. The unit guide provides suggestions for activities to accompany books in the unit. The complete text of a fifth grade unit guide—On My Own—follows on the next page.

Kindergarten

Bears, Bears, Bears
Books to Sing
Books that Read themselves
Books by Eric Carle
Ezra Jack Keats: Author/Illustrator
Pattern Books
Say "Goodnight"
The Cat's Meow
The Earth Turns Around
Read-Together Books
Perfect Pets
Big and Small
Cows on the Moove
Friendship
Being Afraid
School

First Grade

Being Different Makes Us Special
Smile: All About Teeth
Cats, Cats, Cats!
Days with Frogs and Toads
Let's Go to the Beach
Mice Are Nice
Dog-Gone Fun
Pig Tales
Predictable Books
Rabbit Round-Up
Solving Problems
Theodore J. (Dr.) Seuss Geisel
Watch It Grow
We Are Family
Mighty Monsters
On the Go
Modern Day Fables by Leo Lionni

Second Grade

Arnold Lobel
Books to Chew
Brothers and Sisters
Charlotte Zolotow
Curious George
Fly Away With Me!
Folktales by Tomie de Paola
Make a Wish
Please Bug Me!
That's Entertainment!
Write to Me
Special Toys
You're My Friend
Adventures With Arthur
My House, My Home

Third Grade

Bill Peet
Cleverness
Books by Tomie de Paula
Courage
Dinosaur Time
Horses
Make It From Scratch
Mischief Makers
Steven Kellogg: Author/Illustrator
The Royal Touch
Susan Jeffers
Tickle Your Funny Bone
Cumulative Tales
Ramona
Having Fun With James Marshall

Fourth Grade

Mystery and Adventure: Sincerely, Harold X
Travel Back Through Time
Laughter in the Classroom
Pioneer Days
James and the Giant Peach
Hans Christian Andersen
Tales from Other Lands
Books that Blume
Passport to Adventure
Island of the Blue Dolphins
What's a Bibliography, Jean Fritz?
Mary Poppins

Fifth Grade

Survival
What's the Secret, Mrs. Frankweiler?
Sounder
Chocolate Mania
Witches (3 weeks)
On My Own
Make Way for Sam Houston (3 weeks)
Friends and Family
The Civil War (4 weeks)
In Search of the Black Caldron
Folktales From Around the World
The Phantom Tollbooth

GRAVES WRITING WORKSHOP

GRAVES WRITING WORKSHOP

What is writing?
- •A medium with which people communicate with themselves and with others at other places and times
- •A social act which therefore requires the establishment of a community of learners

Basic principles of teaching writing
- •The teacher teaches most by modeling the writing process and by facilitating children's writing.
- •The teacher provides an informal, but structured classroom:
  - -writing occurs daily
  - -at set times
  - -materials are available

Guidelines and Procedures for the Writing Workshop
- •When engaged in drafting, writers should not be disturbed.
- •Talk is an important part of writing, but there are limits on the number of persons who share with one another at any one time.
- •Writing is kept in a set place in a set location.
- •Writing is shared--yours and the students'.

Guidelines for Implementation
Day One

Choosing a topic
- •Number a sheet of paper from 1 to 4.
- •Write down 2 topics that you might want to write about and talk about them.
- •Have each student write down 2 topics that s/he would like to write about.
- •Add 2 more topics to your list and have students do the same.
- •Have each child select a topic to write about (talking to others is okay).

Write
- •Have students write (This is quiet time.)
- •You write, too (for about fifteen minutes).

Visit
- •Move about the room to answer questions individually.
- •Practice receiving the work of students:
  - -say back what the child has written
  - -ask questions

Time to Share
- •Bring the students together to talk about their writing.
- •Have children share their writing (3 or 4).
- •Let children ask questions of the author.

Writing Folders
- •Use folders with pockets. (You may want to have two folders--one for the child and one for you).
- •Students can keep a list of topics they want to write about on the front of the folder. Have them add as they think of future topics.
- •Don't throw anything away.
- •Keep the folders in a box or in a place easily accessible to students.
- •The folders always stay in the room.

After Day One

Read

- •Read every day.
- •Reading different authors aloud
  - -provides different voices and topics for the children to sample
  - -lets children try some of the authors' forms of expression or ways of illustrating.
- •Reading helps children become critical readers by having them examine story lines, plot outcomes, and characters

Write

- •Continue the writing process. Remind students that they are writing drafts and that they will have plenty of time to develop their stories and to get them ready for publication.

Revise

- •Continue to visit with children to receive their work.
- •Ask questions that help children expand or elaborate ideas. Do not take over the story and do not use these conferences to correct errors--you are focusing on building communication skills.
- •As you visit with students, identify problem spots--this will help you build in mini lessons for skills building.
- •Provide opportunities for children to conference with each other so they can receive feedback on their stories and ideas on how they can revise their stories to improve them. This also helps them understand that they are writing stories for audiences.

Edit (Depends on the stage of development)

- •Do not change the students' language.
- •Allow them to use invented spellings.
- •Work within the students' "zone of proximal learning." Have them do editing that is within their grasp. Have them:
  - -circle potential spelling errors;
  - -mark where there might be a need for punctuation;
  - -underline what does not sound right.

Beyond that, you (or perhaps peers) can help do the final editing:

- -change inventions to correct spellings
- -supply punctuation and capitalization.

Publish

- •Students decide what to publish. You may need to help them with this decision in a publishing conference.
- •Students will probably publish one piece every two weeks (depends on age).
- •Display students' writing or put published works in the library center with cards for other students to check out.

This summary is based on notes taken at a Graves Writing Workshop presented by Cindy Farest and from Graves, D. (1983). *Writing: Teachers and children at work*. Exeter, NH: Heinemann Books.

Using Student/Teacher Assistance Teams for School-Based Problem Solving

Purposes of Student/Teacher Assistance Teams (STATs)

- **Provide a support system for classroom teachers** to help teachers work with students who have unique learning/behavior patterns, including those who do not qualify for special education, to help develop alternative strategies for students experiencing academic difficulty, and to help integrate mainstreamed students more effectively.
- **Provide immediate intervention for students experiencing academic difficulty.**
- **Reduce inappropriate referrals to special education** by distinguishing learning disorders from characteristics of L2 acquisition, culture, and other differences.
- **Facilitate professional growth in needed areas** through formative staff development that is tailored to teacher needs.

STAT Operating Procedures

- **Teacher Referral:** Teacher completes "Request for Assistance" form, answering questions such as:
  What is it that the student is not doing that you would like him/her to do?
  What have you already done to try to solve the problem?
  What are the student's assets and deficits?
- **Review of Request for Assistance by STAT Coordinator:** Coordinator arranges classroom observation or talks with teacher, requests additional information, if needed, and schedules team meeting.
- **Problem-Solving Meeting:** STAT members and teacher reach consensus on the problem, negotiate objectives, and brainstorm alternative suggestions. They develop instructional recommendations, assessment recommendations, and refer elsewhere when needed. A trial period is decided upon and a follow-up meeting is scheduled.
- **Follow-up Meeting(s)**

How to Implement STATs

- Meet with school faculty to explain the purpose of STATs
- Have school faculty elect members, including regular educators, special educators and/or other support personnel.
- Invite participation of elected members.
- Train the team(s).
- Hold a second meeting with faculty and explain how teams will operate on their campus.
- Field-test procedures and ask teachers to volunteer cases.
- Refine procedures.
- Hold team meetings as needed.
- Evaluate effectiveness in terms of the number of cases considered, number of problems resolved by the team, and number of students referred to special education.

Bilingual Special Education
Department of Special Education
The University of Texas at Austin

CURRICULUM-BASED ASSESSMENT

DEFINITION:

"A procedure for determining the instructional needs of students based on the students' ongoing performance in existing course content." (Gickling & Thompson, 1985).

STEPS IN AN ASSESSMENT:

* **Measurement** - The student's level of achievement in a content area is assessed. Classroom curriculum and materials are used in this process.

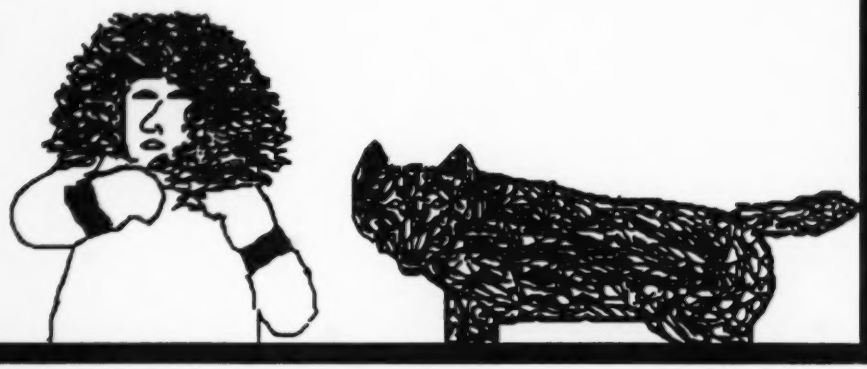
* **Analysis** - The student's texts and/or other classroom materials are judged to be at the student's independent, instructional or frustrational level. The student's responses are examined to determine what the student already knows, what the student needs to learn, and how much and how fast the student should be taught.

* **Design** - The student's instructional program is modified based on the results of the analysis.

* **Implementation** - The modified instructional program is presented to the student. Repeated measurements are used to track progress and to continue to modify instruction as needed.

"On My Own," a Shared Literature unit

ON MY OWN



AIM for the BESt
Julie Peterson
Department of Special Education
The University of Texas at Austin
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BOOKS INCLUDED IN THE UNIT:

JULIE OF THE WOLVES

MY SIDE OF THE MOUNTAIN

BY JEAN CRAIGHEAD GEORGE

ON MY OWN

Language, Literacy, Learning (and Liking It) Outcomes

Major objectives: As you teach this unit, you will be sharing with your students two survival stories which have powerful appeal to children in the middle grades who seek to test their own abilities and look forward to a time of complete independence. Both *Julie of the Wolves* and *My Side of the Mountain* portray a child who is alone in the wilderness and must use ingenuity, quick thinking, mastery of tools and skills, and strength of character in order to survive. The survivors return to civilization and their former lives knowing they have changed as a result of their experiences. Students will compare how Sam survived in the Catskill Mountains and Julie survived in the Arctic tundra. They will conclude the unit by evaluating the natural environment that surrounds them and determining how they would survive if they were alone in the wilderness.

Additional objectives: Children will also learn about Eskimo culture and the Arctic environment. Jean George offers detailed descriptions of the Eskimo lifestyle and the environment in which they live including the plant and animal life, particularly wolves. This unit contains elements of language arts, science, and social studies.

Preparing to Teach

Set up an area where maps can be displayed. Include a map of North America so that the students can see where Alaska is located in relation to Texas. Also include a large map of Alaska and pictures portraying the the environment in which the Eskimos live.

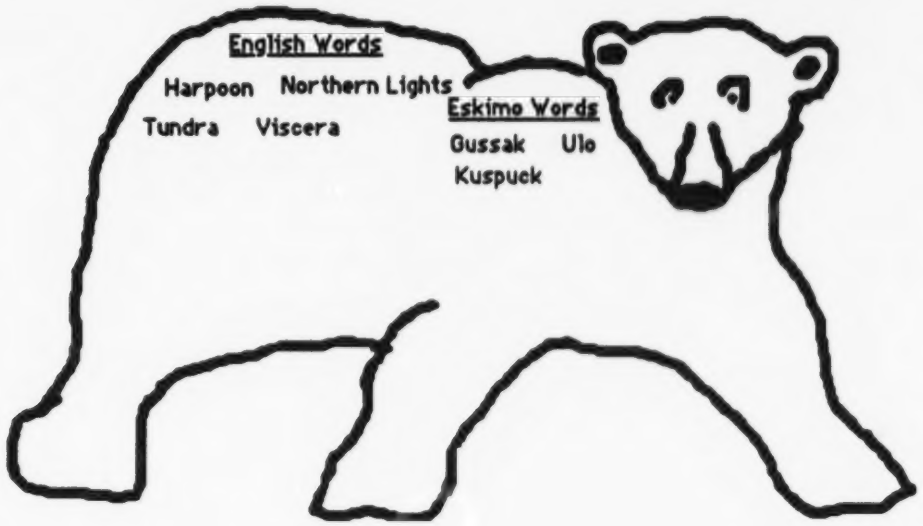
Organization of the Unit

The unit is organized so that you read about 11 pages of *Julie of the Wolves* each day for three weeks. Each child will be provided with a copy of *My Side of the Mountain* , also by Jean George, to read on their own.

As You Read Each Day

Remind the children to listen for information that tells about how and where the Eskimos live as you read aloud each day. Point out new vocabulary words which reflect the Eskimo culture or the Alaskan environment (gussak, northern lights, aurora borealis, for example).

Each day after you have finished reading, write the new vocabulary words on the polar bear vocabulary chart. An example of the chart is provided below. Have children volunteer to look up words they do not know in the dictionary and share what they find with the class.



Prepare for the children's written responses in two ways:

1) Group responses: Get a large piece of butcher paper and rule it into sections as suggested in the model on the last page of this unit. This "language chart" will hold children's observations about the book. After you have read each day, encourage the children to tell what should be added to the language chart. Record what happened, as well as factual aspects of Eskimo culture, and the behavior of wolves.

2) Individual responses (in addition to the language chart): Make booklets to serve as children's logs for response. Cut paper into small squares and staple it together. Have children add a cover made from heavy construction paper. The booklet can be used for their individual responses to *Julie of the Wolves* as well as for their own thoughts on how they would survive on their own in the Texas wilderness.

Part I: Amaroq, the wolf

In Part I, George introduces us to Miyax, an Eskimo girl who is described as "daughter of Kapugen, adopted child of Martha, citizen of the United States of America, pupil at the Bureau of Indian Affairs School in Barrow, Alaska, and thirteen-year-old wife of the boy Daniel." We meet Miyax after she has left her life in Barrow behind her and has made herself a home among a pack of wolves on the Alaskan tundra. She planned to go to Point Hope where she could catch the boat to San Francisco where her pen pal lives, but she lost her direction. Her food supply has run out and she realizes that her salvation or her destruction depends upon a pack of nearby wolves. She observes the wolves from her sod house in order to learn to communicate with them. She finally gains their confidence and is able to survive off of their caribou kill. Part I concludes with the wolves departing as the fall approaches, and Miyax prepares to go it alone to Point Hope.

Day One
(Read pages 5 - 13)

Introducing the Unit

Show the children the two books by Jean George that will be read during this unit on survival: *Julie of the Wolves,* which will be read aloud, is the story of a 13-year-old Eskimo girl from Barrow, Alaska who, believing that her father is dead, sets off on her own for Point Hope, where she plans to catch the boat to San Francisco. She becomes lost and learns to survive in the harsh environment of the Arctic tundra as a friend of the wolves. In the end, she finds out that her father is alive and they are reunited. A copy of *My Side of the Mountain,* a story about a boy who leaves New York City to live on his own in the Catskill Mountains, will be provided to each student for independent reading. Have the children locate on the map of North America where New York and Alaska are located in relation to Texas. Show the *National Geographic* pictures that are provided with the unit. Invite the children to volunteer what they know about Alaska. How does Alaska's environment differ from the Texas environment? Read to the children the information about the author at the end of this unit.

As you read point out and have the children note the words that describe northern Alaska, the names of plants and animals, Eskimo words, and other words that the children are not familiar with. You may have each child select one of the categories.

Eskimo Terms	Geography	Animals	Plants	Other
Gussaks	Chukchi	Polar Bear	Moss	Harpoon
Ulo	Arctic Ocean	Wolves	Grass	Parka
Kayak	Brooks Range	Squirrels	Lichens	
	Bering Sea	Caribou		
	Tundra	Longspurs		
	Nunivak Island	Buntings		
	Point Hope	Puffins		
	Barrow	Sandpipers		
	Frost Heave	Lemming		
		Seal		

Responding to the Story

Invite children to use the dictionary to look up vocabulary you have pointed out which reflect Eskimo culture or Arctic life: harpoon, tundra, gussak, and *ulo*. Write these words on the polar bear chart. *Ulo* and gussak will not be in the dictionary as they are words of the Upick dialect. Ask the children to recall how these two words were defined in the story. Who is Miyax referring to when she says "the gussaks?"

Use a dictionary to look up the area of Texas and Alaska in square miles. Have the children figure out which state is bigger and by how many square miles. How does Jean George describe northern Alaska (the land, plant life, and animal life)? Locate on a map the part of Alaska she describes: the Brooks Range, the Arctic Ocean, the Beaufort Sea, and the Chukchi Sea.

What have we learned about Miyax so far? What has Jean George shared about Eskimo culture? Have the children locate on a map where Miyax was born (Nunivak Island), where she went to school (Barrow), and and where she is trying to go (Point Hope). Why does she want to go to Point Hope? What happened to her father?

What kind of house does Miyax live in? Invite the children to share what they think a sod house looks like. Have somebody look up the word "sod." Have them draw pictures of Miyax's summer house. Have the students hypothesize what George means by: "Upon discovering the

wolves, she had settled down to live near them in the hope of sharing their food, until the sun set and the stars came out to guide her." How long will it take before the sun sets? Ask for a volunteer to find a definition of the "Midnight Sun" in the dictionary and share it with the class.

Enter the children's thinking about the categories on the language chart as the questions above are discussed.

If you are planning to have the children write their own response journals for this unit, you may want to introduce the journal idea now. Encourage the children to further research topics described on the language chart which interest them and then to share their findings with the class.

Day Two
(Read page 14 to the top of page 25)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Animals
White Fox
Snowy Owl
Weasel
Jaeger
Siskin

Responding to the Story

Invite the children to describe the different members of the pack of wolves. What is Amaroq's role? Where does "Jello" fit in to the picture?

What does Miyax mean when she says: "Wolves do not eat people. That's gussak talk. Kapugen said wolves are gentle brothers."

Identify some examples of how the wolves communicate. How did Miyax become "one of pack?" How did she learn to communicate with the wolves?

Day Three
(Read pages 25 to the top of page 37)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:.

Eskimo Terms	Plants	Other
Kuspuck	Sedge	Carrion
	Arctic Peas	

Responding to the Story

How did Miyax find food to eat? What kind of clothes was she wearing and how did she care for them? Describe how she lived in her sod house.

Enter new information in the appropriate categories on the language chart and the polar bear chart.

Day Four
(Read page 37 to the middle of page 49)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Eskimo Terms	Animals	Plants	Other
Ookpick	Tern	Cotton Grass	Viscera
Mukluks	Loon		

Responding to the Story

Have the children describe the wolves' hunting patterns.

Where do the wolves live during the spring? during the summer? during the winter?

Why did Miyax need to leave markers on clumps of grass or on stones when she went hunting? What did she hunt? What happens in Nunivak (where Miyax was born) when a boy catches his first bird? What happens when he kills his first seal? What does Miyax think of such celebrations?

Ask for volunteers to look up "loon" and "tern" (birds) in the encyclopedia and to share with the class what they find. If there are pictures of these birds in the encyclopedia, show the pictures to the class. What is the Eskimo word for the snowy owl? (*ookpick* - add this word to the polar bear chart.) Have one of the children look up the word "viscera."

Ask the children what they have learned about the Arctic summer. Does it get dark? Find out why or why not. What happens in Barrow when the fog rolls in from the sea?

What did Miyax use as fuel for her fire? Why didn't she use wood?

Enter new information in the appropriate categories on the language chart and the polar bear chart.

Day Five
(Read page 49 to the middle of page 61)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Geography
Fairbanks

Responding to the Story

Discuss different Eskimo customs highlighted in this section: paying tribute to the spirit of the caribou, giving the liver of the caribou to the women. How did Miyax prepare and store the caribou meat? How else was she able to use the caribou for survival purposes?

What is a difference between wolves and dogs that was identified in this section?

In the reading on day one, the woman's knife (*ulo*) was described as a "half-moon shaped knife, so versatile it can trim a baby's hair, slice a tough bear, or chip an iceberg." In today's reading the man's knife was mentioned. How might it differ from the woman's knife?

How did Miyax figure out the direction of Fairbanks and the coast? Have a volunteer locate and show to the class where the coast and Fairbanks are in relation to where Miyax is. In which direction does Miyax need to go?

Enter new information in the appropriate categories on the language chart and the polar bear chart.

Day Six
(Read page 61 to page 70)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Geography	Animals
Permafrost	Whales

Responding to the Story

How did Miyax use the sun to estimate the date? Which signs of autumn are identified. Why is it easier to estimate the date by watching the sun in Alaska than it is in Texas? How many days does the Arctic night last? How do the wolves know when it is time to leave their summer den?

What is Jello's position in the wolf pack?

What happens to the Arctic fox's fur when the seasons change?

How did Miyax make a compass?

Enter new information in the appropriate categories on the language chart and the polar bear chart.

Part II: Miyax, the girl

In Part II we learn more about Miyax's background: why she moved from Nunivak Island to Barrow and what events led her to go it on her own out on the tundra.

Day Seven
(Read page 75 to the top of page 84)

Briefly review what you read on the previous day. Talk about the format of the book: Part I, Amaroq, the wolf, introduced us to Miyax, lost on the tundra. In Part I we learned very few details about Miyax's background. We learned mostly about how she survived by learning to communicate with a pack of wolves. In Part II, Jean George offers more details about Miyax and we learn why she wanted to leave Barrow to go to San Francisco where her pen pal lives. Ask the children to think about Jean George's motives for beginning *Julie of the Wolves* when Miyax was lost on the vast tundra rather than starting at the beginning of the story.

As you read, discuss the following words which may be unfamiliar:.

Eskimo Terms	Geography	Animals	Plants	Other
Bladder Feast	Mekoryuk	Reindeer	Salmon Berries	Driftwood
Joking Partner	Nash Harbor	Walrus		Shaman
Serious Partner		Cod		Bladder Bag
I'noGo tied		Halibut		
		Sea Urchins		
		Clams		

Responding to the Story

What was Miyax's father's occupation before her mother died? Where did Kapugen and Miyax go after her mother died?

Describe the Bladder Feast. Describe "the bent woman." What did "the bent woman" do during the Bladder Feast? What did she do when the whale was caught? Who was Kapugan's serious partner? What did they do

with the seal bladders during the Bladder Feast? What purpose did the seal bladders have?

During what time of year was Miyax at the seal camp? At the hunting camp? How were the two camps different?

Why did people in Mekoryuk have two names? What were Miyax and her father's English names? How did Miyax feel about being called "Julie?"

What did Miyax think of Martha, her father's aunt? Why?

Describe the circumstances that separated Miyax from her father. What did her father say she could do if she was unhappy living with her Aunt Martha? What did Kapugen pack Miyax's things in?

What did the old man from the seal camp tell Aunt Martha? How did Miyax feel when she learned her father had disappeared at sea?

Enter new information in the appropriate categories on the language chart and the polar bear chart.

Day Eight
(Read page 84 to the top of page 96)

Briefly review what you read on the previous day.

Responding to the Story

What did Julie think of her new life with her Aunt Martha? How was her new life different from how she had lived with her father?

What is an "TnoGo tied?" What might it look like? Why did Julie throw her "TnoGo tied" away after she went home from Judith's?

How did Julie and Amy become pen pals? What kinds of things did Amy write about in her letters?

Why was Julie unhappy living with her Aunt Martha?

Why did she go to Barrow? What would you have done if you were Julie? What did she mean when she told her aunt "the old ways are best?"

Where did the plane stop on the way to Barrow? Chart Julie's journey on the map of Alaska.

What did Julie think about marrying Daniel? Did she really think that "the old ways are best?" What was her first impression of Daniel? What was the wedding like? What was the attitude towards arranged marriages as expressed by Pearl, a girl Julie met in Barrow. Why was it arranged for Julie and Daniel to get married.

What was the blanket toss? What did kids do for fun in Barrow?

Enter new information in the appropriate categories on the language chart.

Day Nine
(Read page 96 to page 104)

Briefly review what you read on the previous day.

Responding to the Story

Describe Amy's house in San Francisco. Why did the house in San Francisco seem more real to Julie than the house in Barrow?

Describe Naka. Explain what Julie meant when she said "Naka is evil again." "His spirit has fled."

What do the Eskimos celebrate on January 24th? How do they celebrate the first sunrise? How is the winter darkness different in Barrow and Nunivak? Would you like to live in northern Alaska in the winter? Why or why not?

What goes on in Barrow in the summer?

Why did Daniel confront Julie about being his wife the night that Nusan went to get Naka out of Jail? How did Julie react to Daniel?

As Julie left Barrow, why did she call herself Miyax?

Enter new information in the appropriate categories on the language chart.

Part III: Kapugen, the hunter

In part III Miyax's intentions are to catch the boat in Point Hope and head for San Francisco, but as she gets closer to human civilization events occur which result in her developing a stronger identification with the Eskimo lifestyle. When Amaroq the wolf is shot for the "sport" of killing by "gussak" hunters flying over the tundra, Miyax loses her desire to become a part of anything representing their civilization. She learns from an Eskimo family she meets that her father is alive and living in the village of Kangik. When she finds that her father's lifestyle and values are not purely Eskimo she considers returning to the tundra, but finally decides to return to her father.

Day Ten

(Read page 109 to page 122)

Briefly review what you read on the previous day. Introduce Part III as "Kapugen, the hunter." Ask the children to predict what happens in Part III of *Julie of the Wolves.*

Responding to the Story

What kinds of problems did Jello create for Miyax? What items in her pack did Miyax need most for survival? How did Miyax feel when she saw Jello run off with her pack? Why was Jello an outcast in Amoraq's pack of wolves? What finally happened to him.

What led Miyax to believe that Amaroq had visited her while she slept?

How did Miyax prepare for snow when she saw the dark and soft edged clouds?

Describe the difference between male and female caribou.

Enter new information in the appropriate categories on the language chart.

Day Eleven
(Read page 122 to page 133)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Animals
Ptarmigan
Brown/Grizzly Bear

Responding to the Story

Describe the colors Miyax saw on the tundra.

How did Miyax use grass to make a pole for her tent? What are some other ways that Miyax used the freezing Arctic climate to her advantage? (the grass tent poles, weapons, and the sled).

Describe how Miyax caught the rabbit.

Why did Kapu bring Miyax the leg of caribou?

Why did Miyax travel when it was dark?

When Miyax saw an oil drum she realized that she was getting closer to American civilization. How does she feel about this?

Bears hibernate during the winter so Miyax was surprised when the wolves were chasing a grizzly bear away from her. Why was the grizzly bear awake?

In what way are the attitudes of Eskimos and "gussaks" different with regard to killing animals?

Enter new information in the appropriate categories on the language chart and the polar bear chart.

If time allows, ask the children to think about one of the animals listed on the polar bear chart that they would like to know more about. Introduce the children to note-taking skills by taking the whole group

through the example provided at the end of the unit. The children will use this same format on Day Twelve for researching the animal they have selected. Opportunities to share what they learn with the rest of the class will be provided on Day Fourteen

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Day Twelve
(Read page 134 to middle of page 147)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Animals	Other
Plover	Northern Lights
	Totem

Responding to the Story

Talk about the ecosystem. What did Kapugen say would happen to other animals on the tundra if all the wolves were gone?

What leadership skills did Amaroq teach to Kapu?

Julie survives on the tundra because of Amaroq and the other wolves. How do you think she feels about returning to civilization when the hunters in the airplane shoot and kill Amaroq? Discuss the "sport" of killing.

How did Miyax help Kapu?

Enter new information in the appropriate categories on the language chart.

If time allows, have the children select which animal they would like to research. Allow the children time to research the subject they have selected using the resources (such as encyclopedias) in the library. Have them use the same format provided in the example from day eleven.

Day Thirteen
(Read page 147 to page 162)

Briefly review what you read on the previous day.

As you read, discuss the following words which may be unfamiliar:

Eskimo Terms	Geography	Animals
Igloo	Wainwright	Moose
Upick	Kangik	Musk-Oxen

Responding to the Story

What happened on November 10? Approximately how long has Miyax been out on the tundra? (See page 65 and pages 100-104)

How did the wolf pack get along without Amaroq? Who became their new leader?

What did Miyax eat now that it was winter? Where was the best hunting? How did she build her winter house?

What were the clues that Miyax's journey was coming to an end? Why did she and the wolves separate? What did Miyax decide about her future? Why did San Francisco no longer seem attractive to Miyax?

Where did the Eskimo family that Miyax met come from? Find Wainwright on the map. What was Kangik, the town where the family was from, like?

Why did Miyax pretend not to understand when Atik (Roland) spoke to her in English?

Who taught Atik (Roland) to hunt? How did Kapugen change the town of Kangik? How was Kangik before Kapugen arrived? What did other people think of him? How did Miyax react when Uma first talked about Kapugen? Why was Miyax sure that Uma was talking about her father?

Enter new information in the appropriate categories on the language chart and the polar bear chart.

If possible, have the students work on their paragraphs about an animal using the notes they took yesterday.

Day Fourteen
(Read page 164 to page 170)

Briefly review what you read on the previous day.

Responding to the Story

Have the children describe how Kangik looked from where Miyax was peering down. Have the children draw pictures of how they think Kangik looked to Miyax.

When did Miyax go down to see her father? What did his house look like inside? What objects did Miyax see that represented Eskimo culture? American culture? Did Kapugen recognize Miyax right away? How did Miyax feel when her father said "the seal are scarce and the whales are almost gone, but sportsmen can still hunt from planes?" What was Miyax thinking about when she left her father's house?

Miyax becomes "Julie" again as she goes back down to Kapugen's house. Discuss whether this signifies that she has resolved to accept the culture of the "gussaks."

Enter new information in the appropriate categories on the language chart and the polar bear chart.

Allow the children to share what they have learned about the animal they chose to research.

Day Fifteen
(Culminating Activities)

Use the language chart to review the survival skills Julie needed to survive in the Arctic tundra.

If the children have read *My Side of the Mountain* , have them identify the survival skills Sam needed to survive in the Catskill Mountains. Write each child's contributions on a transparency or a large piece of butcher paper. How was the environment Sam survived in different from the Arctic environment? What was the climate like? What were the dangers? What kinds of animals did Sam encounter? What kind of house did he live in? What did he eat? How did he cook? In what ways had Sam and Julie changed when they returned to civilization?

Have the children consider how they would survive if they were lost in the wilderness in central Texas. What kinds of dangerous animals might they encounter? What kind of food would they eat? Make a list of the different kinds of edible plants that grow in the wild in central Texas. How many of these plants have the children eaten before?

Information to Share with the Children
(from *A Practical Guide to Edible & Useful Plants* by Delena Tull (1987)

YUCCA. Some plants are edible and some are poisonous. Parts of some plants may be edible, while other parts are not. The flowers and fleshy fruits of the yucca plant are edible, for example, but the leaves, roots, heart, and trunk of the plant are not. The flower stock of some species may also be toxic. The fruit can be eaten raw, dried, or baked. The creamy-white flowers of the yucca can be eaten raw, pickled, fried, or sautéed and are rich in vitamin C. There are about two dozen species of yucca in Texas and the fruits of some taste better than others. The roots of the yucca can be used as soap. Pound the root to a pulp, add it to a quart of cold water and slosh it until it makes a lather. Then strain out the fibers and add as much warm water as you need to do your washing. If you use the soap on your skin, test a small area first for allergic reaction.

Prickly Pear Cactus. Prickly pears grow in abundance in Texas. The peculiar plants with their flat, round pads are a familiar sight in fields throughout much of the state. The stems, flowers, and succulent fruits of

prickly pears provide tasty treats. Cacti have been attributed to saving lives of people stranded in the desert by supplying both food and water.

In the spring, the young, newly formed pads (nopalitos) provide a tender vegetable, but the older pads can be used as well. Harvest the young pads by grasping them with tongs and slicing them at the stem joints. Hold the pads over a flame to singe both the long spines and the glochids (the tiny hairlike needles), then scrape off any remaining spines with a knife. Rinse the pads well, and check them thoroughly for any tiny spines than may cling to the surface. Slice the pads into thin strips, and drop them into boiling water to cook for about ten minutes. Drain off the water, and rinse the nopalitos to wash off some of the slippery gum. The nopalitos now are ready for use in a variety of dishes, salads, soups, and casseroles. If you use the older pads, remove the tough skin by scraping it off with a knife, and cut out the more fibrous sections.

Recipe: Fried Nopalitos for Two

1 cup nopalitos, prepared as above
1/3 cup wheat flour
2/3 cup commeal
1 teaspoon chili powder
Salt and pepper to taste
Vegetable oil

Place flour, commeal and spices in a small bag, and shake the bag to mix. Drop the nopalitos into the bag, and shake till the strips are well coated. Heat oil in a skillet. Fry the strips till they are golden brown.

Mesquite Beans. Mesquite beans are of the legume or bean family, which is one of the largest families of plants in the world. Next to the grasses, which produce our grains and cereals, the bean family is the most economically important group of plants in the world. All of the beans and peas found at the dinner table come from this family: limas, pintos, kidneys, navies, green beans, black-eyed peas, snow peas, and even peanuts. The bean pods of the mesquite yield a large annual summer-fall harvest. These pods supplied an abundant wild food that Native Americans in the Southwest could depend on from year to year. The pods furnish protein, sugars, carbohydrates, and minerals. They contain up to 13 percent protein and 36 percent sucrose, twice as much sugar as beets or sugar cane. The pods are also rich in calcium, iron, and other minerals. You can chew the raw pods, green or ripe, and spit out the fibrous pulp. You can also boil the green pods to produce a nutritious syrup or grind the

ripe pods into meal. The flavor of the pods varies from bitter to sweet. You may have to try a few trees to find a sweet one.

Recipe: Green Mesquite Pod Syrup

Find a sweet tree, fill a bag up with the green pods. Wash the pods and break them into small pieces. Place the pieces in a pot, cover them with water, and bring the water to a boil. Simmer the beans for 2 hours, adding small amounts of water if needed to prevent the syrup from burning. Mash the pods, and tear them apart further to release more of the sweet pulp. Simmer for a few more minutes. Strain the juice through a sieve, then pour it back into a clean pot. Add sugar to taste (about 1 cup sugar to 2 cups for a thin syrup). Boil for 5 minutes. Mesquite syrup has a unique flavor and is excellent on pancakes.

Note-Taking

Encyclopedia entry: *Raintree Illustrated Science Encyclopedia*, 1984. Vol. 17 p. 1548

> **SLUG** (slǝg) slug is the name for any snail (class Gastropoda) that has a very small shell, or has no shell. The animal has two pairs of tentacles, with eyes on the outer end of the longer pair. The great gray slug (Limax maximum) is about 9 cm (4 in) long. Like most slugs, it is a vegetarian. But the great gray slug is a pest. It eats plants and damages many crops. Most types of slugs feed on decaying matter. Many feed on fungi. Food is usually taken in with the tilelike tongue, or "radula." Slugs are usually active only at night or after rain. They hide during the day under stones and vegetation. J.J.A./C.5.H.

Topic: _____ Name: _____

1. Take notes using strips supplied below.
2. Use only main ideas and key words.
3. Complete and hand in 4 note strips for marking.
4. Write an in-class paragraph using only these notes.

Kind

Appearance

Food

Habitat

Locomotion

*From TESL CANADA JOURNAL, vol. 5, No.1, November 1987

ON MY OWN

How did Miyax Survive?	What did we learn about Eskimos?	What did we learn about wolves?
Day 1		
Day 2		
Day 3		
Day 4		
Day 5		
Day 6		
Day 7		
Day 8		
Day 9		
Day 10		

ABOUT THE AUTHOR

From *Developing Learning Skills through Children's Literature*
by M.K. Laughlin and L.S. Watt (1986)

Jean Craighead George is an author who grew up being concerned about the balance of nature and the responsibility of people in not upsetting that balance. Her father was an entomologist for the Department of Agriculture in Washington, D.C. With her brothers, who are now ecologists, she was introduced to wildlife through trips into the wilderness to study animals and plants in their natural habitats. Hiking trails, cooking wild plants, and paddling canoes are part of her childhood memories. Summers were enjoyed at the old family home in Craighead, Pennsylvania.

As indicated in the Harper & Row brochure, *Jean Craighead George*, was a reporter for *The Washington Post*, and as an author of magazine articles for *Readers' Digest*, she traveled extensively throughout the United States.

She and her three children have kept 173 pets, besides dogs and cats, in her present home in Chappaqua, New York. She says, "Most of these wild animals depart in the autumn when the sun changes their behavior and they feel the urge to migrate or go off alone. While they are with us, however, they become characters in my books, articles and stories." Information for *Julie of the Wolves*, a 1973 Newbery Medal Winner, and *The Wounded Wolf* was obtained when she and her son Luke spent time studying wolves and the tundra at the Arctic Laboratory at Barrow, Alaska.